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(54) Title: METHODS AND COMPOSITIONS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HIV TRANSMISSION

(57) Abstract

The present invention relates to peptides which exhibit potent anti-retroviral activity. The peptides of the invention comprise DP178 (SEQ ID:1) peptide corresponding to amino acids 638 to 673 of the HIV-1_{LAI} gp41 protein, and fragments, analogs and homologs of DP178. The invention further relates to the uses of such peptides as inhibitory of human and non-human retroviral, especially HIV, transmission to uninfected cells.

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METHODS AND COMPOSITIONS FOR INHIBITION OF MEMBRANE FUSION-ASSOCIATED EVENTS, INCLUDING HIV TRANSMISSION

This is a Continuation-In-Part of Serial No. 08/360,107 filed December 20, 1994, which is a Continuation-In-Part of Serial No. 08/255,208 filed June 7, 1994, which is a Continuation-In-Part of Serial No. 08/073,028 filed June 7, 1993, each of which is incorporated herein by reference in its entirety. This invention was made with Government support under Grant No. AI-30411-02 awarded by the National Institutes of Health. The Government has certain rights in the invention.

1. INTRODUCTION

The present invention relates, first, to DP178 (SEQ ID NO:1), a peptide corresponding to amino acids 638 to 673 of the HIV-1_{LAI} transmembrane protein (TM) gp41, and portions or analogs of DP178 (SEQ ID NO:1), which exhibit anti-membrane fusion capability, antiviral activity, such as the ability to inhibit HIV transmission to uninfected CD-4^+ cells, or an ability to modulate intracellular processes involving coiled-coil peptide structures. Further, the invention relates to the use of DP178 (SEQ ID NO:1) and DP178 portions and/or analogs as antifusogenic or antiviral compounds or as inhibitors of intracellular events involving coiled-coil peptide structures. The present invention also relates to peptides analogous to DP107 (SEQ ID NO:25), a peptide corresponding to amino acids 558 to 595 of the HIV-1_{LAI} transmembrane protein (TM) gp41, having amino acid sequences present in other viruses, such as enveloped viruses, and/or other organisms, and further relates to the uses of such peptides. These peptides exhibit anti-membrane fusion capability, antiviral activity, or the ability to

modulate intracellular processes involving coiled-coil peptide structures. The present invention additionally relates to methods for identifying compounds that disrupt the interaction between DP178 and DP107, and/or between DP107-like and DP178-like peptides. Further, the invention relates to the use of the peptides of the invention as diagnostic agents. For example, a DP178 peptide may be used as an HIV subtype-specific diagnostic. The invention is demonstrated, first, by way of an Example wherein DP178 (SEQ ID:1), and a peptide whose sequence is homologous to DP178 are each shown to be potent, non-cytotoxic inhibitors of HIV-1 transfer to uninfected CD-4$^+$ cells. The invention is further demonstrated by Examples wherein peptides having structural and/or amino acid motif similarity to DP107 and DP178 are identified in a variety of viral and nonviral organisms, and in examples wherein a number of such identified peptides derived from several different viral systems are demonstrated to exhibit antiviral activity.

2. BACKGROUND OF THE INVENTION

2.1 MEMBRANE FUSION EVENTS

Membrane fusion is a ubiquitous cell biological process (for a review, see White, J.M., 1992, Science 258:917-924). Fusion events which mediate cellular housekeeping functions, such as endocytosis, constitutive secretion, and recycling of membrane components, occur continuously in all eukaryotic cells.

Additional fusion events occur in specialized cells. Intracellularly, for example, fusion events are involved in such processes as occur in regulated exocytosis of hormones, enzymes and neurotransmitters.

Intercellularly, such fusion events feature prominently in, for example, sperm-egg fusion and myoblast fusion.

Fusion events are also associated with disease states. For example, fusion events are involved in the formation of giant cells during inflammatory reactions, the entry of all enveloped viruses into cells, and, in the case of human immunodeficiency virus (HIV), for example, are responsible for the virally induced cell-cell fusion which leads to cell death.

2.2. THE HUMAN IMMUNODEFICIENCY VIRUS

The human immunodeficiency virus (HIV) has been implicated as the primary cause of the slowly degenerative immune system disease termed acquired immune deficiency syndrome (AIDS) (Barre-Sinoussi, F. et al., 1983, Science 220:868-870; Gallo, R. et al., 1984, Science 224:500-503). There are at least two distinct types of HIV: HIV-1 (Barre-Sinoussi, F. et al., 1983, Science 220:868-870; Gallo R. et al., 1984, Science 224:500-503) and HIV-2 (Clavel, F. et al., 1986, Science 233:343-346; Guyader, M. et al., 1987, Nature 326:662-669). Further, a large amount of genetic heterogeneity exists within populations of each of these types. Infection of human CD-4$^+$ T-lymphocytes with an HIV virus leads to depletion of the cell type and eventually to opportunistic infections, neurological dysfunctions, neoplastic growth, and ultimately death.

HIV is a member of the lentivirus family of retroviruses (Teich, N. et al., 1984, RNA Tumor Viruses, Weiss, R. et al., eds., CSH-Press, pp. 949-956). Retroviruses are small enveloped viruses that contain a diploid, single-stranded RNA genome, and

replicate via a DNA intermediate produced by a virally-encoded reverse transcriptase, an RNA-dependent DNA polymerase (Varmus, H., 1988, Science 240:1427-1439). Other retroviruses include, for example, oncogenic viruses such as human T-cell leukemia viruses (HTLV-I,-II,-III), and feline leukemia virus.

The HIV viral particle consists of a viral core, composed of capsid proteins, that contains the viral RNA genome and those enzymes required for early replicative events. Myristylated Gag protein forms an outer viral shell around the viral core, which is, in turn, surrounded by a lipid membrane enveloped derived from the infected cell membrane. The HIV enveloped surface glycoproteins are synthesized as a single 160 Kd precursor protein which is cleaved by a cellular protease during viral budding into two glycoproteins, gp41 and gp120. gp41 is a transmembrane protein and gp120 is an extracellular protein which remains non-covalently associated with gp41, possibly in a trimeric or multimeric form (Hammarskjold, M. and Rekosh, D., 1989, Biochem. Biophys. Acta 989:269-280).

HIV is targeted to CD-4$^+$ cells because the CD-4 cell surface protein acts as the cellular receptor for the HIV-1 virus (Dalgleish, A. et al., 1984, Nature 312:763-767; Klatzmann et al., 1984, Nature 312:767-768; Maddon et al., 1986, Cell 47:333-348). Viral entry into cells is dependent upon gp120 binding the cellular CD-4$^+$ receptor molecules (McDougal, J.S. et al., 1986, Science 231:382-385; Maddon, P.J. et al., 1986, Cell 47:333-348) and thus explains HIV's tropism for CD-4$^+$ cells, while gp41 anchors the enveloped glycoprotein complex in the viral membrane.

2.3. HIV TREATMENT

HIV infection is pandemic and HIV associated diseases represent a major world health problem. Although considerable effort is being put into the successful design of effective therapeutics, currently no curative anti-retroviral drugs against AIDS exist. In attempts to develop such drugs, several stages of the HIV life cycle have been considered as targets for therapeutic intervention (Mitsuya, H. et al., 1991, FASEB J. 5:2369-2381). For example, virally encoded reverse transcriptase has been one focus of drug development. A number of reverse-transcriptase-targeted drugs, including 2',3'-dideoxynucleoside analogs such as AZT, ddI, ddC, and d4T have been developed which have been shown to been active against HIV (Mitsuya, H. et al., 1991, Science 249:1533-1544). While beneficial, these nucleoside analogs are not curative, probably due to the rapid appearance of drug resistant HIV mutants (Lander, B. et al., 1989, Science 243:1731-1734). In addition, the drugs often exhibit toxic side effects such as bone marrow suppression, vomiting, and liver function abnormalities.

Attempts are also being made to develop drugs which can inhibit viral entry into the cell, the earliest stage of HIV infection. Here, the focus has thus far been on CD4, the cell surface receptor for HIV. Recombinant soluble CD4, for example, has been shown to inhibit infection of CD-4$^+$ T-cells by some HIV-1 strains (Smith, D.H. et al., 1987, Science 238:1704-1707). Certain primary HIV-1 isolates, however, are relatively less sensitive to inhibition by recombinant CD-4 (Daar, E. et al., 1990, Proc. Natl. Acad. Sci. USA 87:6574-6579). In addition,

recombinant soluble CD-4 clinical trials have produced inconclusive results (Schooley, R. et al., 1990, Ann. Int. Med. 112:247-253; Kahn, J.O. et al., 1990, Ann. Int. Med. 112:254-261; Yarchoan, R. et al., 1989, Proc. Vth Int. Conf. on AIDS, p. 564, MCP 137).

The late stages of HIV replication, which involve crucial virus-specific secondary processing of certain viral proteins, have also been suggested as possible anti-HIV drug targets. Late stage processing is dependent on the activity of a viral protease, and drugs are being developed which inhibit this protease (Erickson, J., 1990, Science 249:527-533). The clinical outcome of these candidate drugs is still in question.

Attention is also being given to the development of vaccines for the treatment of HIV infection. The HIV-1 enveloped proteins (gp160, gp120, gp41) have been shown to be the major antigens for anti-HIV antibodies present in AIDS patients (Barin, et al., 1985, Science 228:1094-1096). Thus far, therefore, these proteins seem to be the most promising candidates to act as antigens for anti-HIV vaccine development. To this end, several groups have begun to use various portions of gp160, gp120, and/or gp41 as immunogenic targets for the host immune system. See for example, Ivanoff, L. et al., U.S. Pat. No. 5,141,867; Saith, G. et al., WO 92/22,654; Shafferman, A., WO 91/09,872; Formoso, C. et al., WO 90/07,119. Clinical results concerning these candidate vaccines, however, still remain far in the future.

Thus, although a great deal of effort is being directed to the design and testing of anti-retroviral drugs, a truly effective, non-toxic treatment is still needed.

3. SUMMARY OF THE INVENTION

The present invention relates, first, to DP178 (SEQ ID:1), a 36-amino acid synthetic peptide corresponding to amino acids 638 to 673 of the transmembrane protein (TM) gp41 from the HIV-1 isolate LAI (HIV-1_{LAI}), which exhibits potent anti-HIV-1 activity. As evidenced by the Example presented below, in Section 6, the DP178 (SEQ ID:1) antiviral activity is so high that, on a weight basis, no other known anti-HIV agent is effective at concentrations as low as those at which DP178 (SEQ ID:1) exhibits its inhibitory effects.

The invention further relates to those portions and analogs of DP178 which also show such antiviral activity, and/or show anti-membrane fusion capability, or an ability to modulate intracellular processes involving coiled-coil peptide structures. The term "DP178 analog" refers to a peptide which contains an amino acid sequence corresponding to the DP178 peptide sequence present within the gp41 protein of HIV-1_{LAI}, but found in viruses and/or organisms other than HIV-1_{LAI}. Such DP178 analog peptides may, therefore, correspond to DP178-like amino acid sequences present in other viruses, such as, for example, enveloped viruses, such as retroviruses other than HIV-1_{LAI}, as well as non-enveloped viruses. Further, such analogous DP178 peptides may also correspond to DP178-like amino acid sequences present in nonviral organisms.

The invention further relates to peptides DP107 (SEQ ID NO:25) analogs. DP107 is a peptide corresponding to amino acids 558-595 of the HIV-1_{LAI} transmembrane protein (TM) gp41. The term "DP107 analog" as used herein refers to a peptide which contains an amino acid sequence corresponding to the

DP107 peptide sequence present within the gp41 protein of HIV-1_{LAI}, but found in viruses and organisms other than HIV-1_{LAI}. Such DP107 analog peptides may, therefore, correspond to DP107-like amino acid sequences present in other viruses, such as, for for example, enveloped viruses, such as retroviruses other than HIV-1_{LAI}, as well as non-enveloped viruses. Further, such DP107 analog peptides may also correspond to DP107-like amino acid sequences present in nonviral organisms.

Further, the peptides of the invention include DP107 analog and DP178 analog peptides having amino acid sequences recognized or identified by the 107x178x4, ALLMOTI5 and/or PLZIP search motifs described herein.

The peptides of the invention may, for example, exhibit antifusogenic activity, antiviral activity, and/or may have the ability to modulate intracellular processes which involve coiled-coil peptide structures. With respect to the antiviral activity of the peptides of the invention, such an antiviral activity includes, but is not limited to the inhibition of HIV transmission to uninfected CD-4^+ cells. Additionally, the antifusogenic capability, antiviral activity or intracellular modulatory activity of the peptides of the invention merely requires the presence of the peptides of the invention, and, specifically, does not require the stimulation of a host immune response directed against such peptides.

The peptides of the invention may be used, for example, as inhibitors of membrane fusion-asociated events, such as, for example, the inhibition of human and non-human retroviral, especially HIV, transmission to uninfected cells. It is further contemplated that

the peptides of the invention may be used as modulators of intracellular events involving coiled-coil peptide structures.

The peptides of the invention may, alternatively, be used to identify compounds which may themselves exhibit antifusogenic, antiviral, or intracellular modulatory activity. Additional uses include, for example, the use of the peptides of the invention as organism or viral type and/or subtype-specific diagnostic tools.

The terms "antifusogenic" and "anti-membrane fusion", as used herein, refer to an agent's ability to inhibit or reduce the level of membrane fusion events between two or more moieties relative to the level of membrane fusion which occurs between said moieties in the absence of the peptide. The moieties may be, for example, cell membranes or viral structures, such as viral envelopes or pili. The term "antiviral", as used herein, refers to the compound's ability to inhibit viral infection of cells, via, for example, cell-cell fusion or free virus infection. Such infection may involve membrane fusion, as occurs in the case of enveloped viruses, or some other fusion event involving a viral structure and a cellular structure (e.g., such as the fusion of a viral pilus and bacterial membrane during bacterial conjugation).

It is also contemplated that the peptides of the invention may exhibit the ability to modulate intracellular events involving coiled-coil peptide structures. "Modulate", as used herein, refers to a stimulatory or inhibitory effect on the intracellular process of interest relative to the level or activity of such a process in the absence of a peptide of the invention.

Embodiments of the invention are demonstrated below wherein an extremely low concentration of DP178 (SEQ ID:1), and very low concentrations of a DP178 homolog (SEQ ID:3) are shown to be potent inhibitors of HIV-1 mediated CD-4$^+$ cell-cell fusion (i.e., syncytial formation) and infection of CD-4$^+$ cells by cell-free virus. Further, it is shown that DP178 (SEQ ID:1) is not toxic to cells, even at concentrations 3 logs higher than the inhibitory DP-178 (SEQ ID:1) concentration.

The present invention is based, in part, on the surprising discovery that the DP107 and DP178 domains of the HIV gp41 protein non-covalently complex with each other, and that their interaction is required for the normal infectivity of the virus. This discovery is described in the Example presented, below, in Section 8. The invention, therefore, further relates to methods for identifying antifusogenic, including antiviral, compounds that disrupt the interaction between DP107 and DP178, and/or between DP107-like and DP178-like peptides.

Additional embodiments of the invention (specifically, the Examples presents in Sections 9-16 and 19-25, below) are demonstrated, below, wherein peptides, from a variety of viral and nonviral sources, having structural and/or amino acid motif similarity to DP107 and DP178 are identified, and search motifs for their identification are described. Further, Examples (in Sections 17, 18, 25-29) are presented wherein a number of the peptides of the invention are demonstrated exhibit substantial antiviral activity or activity predictive of antiviral activity.

3.1. DEFINITIONS

Peptides are defined herein as organic compounds comprising two or more amino acids covalently joined by peptide bonds. Peptides may be referred to with respect to the number of constituent amino acids, i.e., a dipeptide contains two amino acid residues, a tripeptide contains three, etc. Peptides containing ten or fewer amino acids may be referred to as oligopeptides, while those with more than ten amino acid residues are polypeptides. Such peptides may also include any of the modifications and additional amino and carboxy groups as are described herein.

Peptide sequences defined herein are represented by one-letter symbols for amino acid residues as follows:

A (alanine)
R (arginine)
N (asparagine)
D (aspartic acid)
C (cysteine)
Q (glutamine)
E (glutamic acid)
G (glycine)
H (histidine)
I (isoleucine)
L (leucine)
K (lysine)
M (methionine)
F (phenylalanine)
P (proline)
S (serine)
T (threonine)
W (tryptophan)
Y (tyrosine)
V (valine)

4. BRIEF DESCRIPTION OF THE FIGURES

FIG. 1. Amino acid sequence of DP178 (SEQ ID:1) derived from HIV_{LAI}; DP178 homologs derived from $HIV\text{-}1_{SF2}$ (DP-185; SEQ ID:3), $HIV\text{-}1_{RF}$ (SEQ ID:4), and $HIV\text{-}1_{MN}$ (SEQ ID:5); DP178 homologs derived from amino acid sequences of two prototypic HIV-2 isolates, namely, $HIV\text{-}2_{rod}$ (SEQ ID:6) and $HIV\text{-}2_{NIHZ}$ (SEQ ID:7); control peptides: DP-180 (SEQ ID:2), a peptide incorporating the amino acid residues of DP178 in a scrambled sequence; DP-118 (SEQ ID:10) unrelated to DP178, which inhibits HIV-1 cell free virus infection; DP-125 (SEQ ID:8), unrelated to DP178, also inhibits HIV-1 cell free virus infection; DP-116 (SEQ ID:9), unrelated to DP178, is negative for inhibition of HIV-1 infection when tested using a cell-free virus infection assay. Throughout the figures, the one letter amino acid code is used.

FIG. 2. Inhibition of HIV-1 cell-free virus infection by synthetic peptides. IC_{50} refers to the concentration of peptide that inhibits RT production from infected cells by 50% compared to the untreated control. Control: the level of RT produced by untreated cell cultures infected with the same level of virus as treated cultures.

FIG. 3. Inhibition of HIV-1 and HIV-2 cell-free virus infection by the synthetic peptide DP178 (SEQ ID:1). IC_{50}: concentration of peptide that inhibits RT production by 50% compared to the untreated control. Control: Level of RT produced by untreated cell cultures infected with the same level of virus as treated cultures.

FIG. 4A-4B. Fusion Inhibition Assays. FIG 4A: DP178 (SEQ ID:1) inhibition of HIV-1 prototypic isolate-mediated syncytial formation; data represents the number of virus-induced syncytial per cell. FIG.

4B: DP-180 (SEQ ID:2) represents a scrambled control peptide; DP-185 (SEQ ID:3) represents a DP178 homolog derived from HIV-1_{SF2} isolate; Control, refers to the number of syncytial produced in the absence of peptide.

FIG. 5. Fusion inhibition assay: HIV-1 vs. HIV-2. Data represents the number of virus-induced syncytial per well. ND: not done.

FIG. 6. Cytotoxicity study of DP178 (SEQ ID:1) and DP-116 (SEQ ID:9) on CEM cells. Cell proliferation data is shown.

FIG. 7. Schematic representation of HIV-gp41 and maltose binding protein (MBP)-gp41 fusion proteins. DP107 and DP178 are synthetic peptides based on the two putative helices of gp41. The letter P in the DP107 boxes denotes an Ile to Pro mutation at amino acid number 578. Amino acid residues are numbered according to Meyers et al., "Human Retroviruses and AIDS", 1991, Theoret. Biol. and Biophys. Group, Los Alamos Natl. Lab., Los Alamos, NM. The proteins are more fully described, below, in Section 8.1.1.

FIG. 8. A point mutation alters the conformation and anti-HIV activity of M41.

FIG. 9. Abrogation of DP178 anti-HIV activity. Cell fusion assays were carried out in the presence of 10 nM DP178 and various concentrations of M41Δ178 or M41PΔ178.

FIG. 10. Binding of DP178 to leucine zipper of gp41 analyzed by FAb-D ELISA.

FIG. 11A-B. Models for a structural transition in the HIV-1 TM protein. Two models are proposed which indicate a structural transition from a native oligomer to a fusogenic state following a trigger event (possibly gp120 binding to CD4). Common

features of both models include (1) the native state is held together by noncovalent protein-protein interactions to form the heterodimer of gp120/41 and other interactions, principally though gp41 interactive sites, to form homo-oligomers on the virus surface of the gp120/41 complexes; (2) shielding of the hydrophobic fusogenic peptide at the N-terminus (F) in the native state; and (3) the leucine zipper domain (DP107) exists as a homo-oligomer coiled coil only in the fusogenic state. The major differences in the two models include the structural state (native or fusogenic) in which the DP107 and DP178 domains are complexed to each other. In the first model (FIG. 11A) this interaction occurs in the native state and in the second (FIG. 11B), it occurs during the fusogenic state. When triggered, the fusion complex in the model depicted in (A) is generated through formation of coiled-coil interactions in homologous DP107 domains resulting in an extended α-helix. This conformational change positions the fusion peptide for interaction with the cell membrane. In the second model (FIG. 11B), the fusogenic complex is stabilized by the association of the DP178 domain with the DP107 coiled-coil.

FIG. 12. Motif design using heptad repeat positioning of amino acids of known coiled-coils.

FIG. 13. Motif design using proposed heptad repeat positioning of amino acids of DP107 and DP178.

FIG. 14. Hybrid motif design crossing GCN4 and DP107.

FIG. 15. Hybrid motif design crossing GCN4 and DP178.

FIG. 16. Hybrid motif design 107x178x4, crossing DP107 and DP178. This motif was found to be

the most consistent at identifying relevant DP107-like and DP178-like peptide regions.

FIG. 17. Hybrid motif design crossing GCN4, DP107, and DP178.

FIG. 18. Hybrid motif design ALLMOTI5 crossing GCN4, DP107, DP178, c-Fos c-Jun, c-Myc, and Flu Loop 36.

FIG. 19. PLZIP motifs designed to identify N-terminal proline-leucine zipper motifs.

FIG. 20. Search results for HIV-1 (BRU isolate) enveloped protein gp41. Sequence search motif designations: Spades (♠): 107x178x4; Hearts (♥) ALLMOTI5; Clubs (♣): PLZIP; Diamonds (♦): transmembrane region (the putative transmembrane domains were identified using a PC/Gene program designed to search for such peptide regions). Asterisk (*): Lupas method. The amino acid sequences identified by each motif are bracketed by the respective characters. Representative sequences chosen based on 107x178x4 searches are underlined and in bold. DP107 and DP178 sequences are marked, and additionally double-underlined and italicized.

FIG. 21. Search results for human respiratory syncytial virus (RSV) strain A2 fusion glycoprotein F1. Sequence search motif designations are as in FIG. 20.

FIG. 22. Search results for simian immunodeficiency virus (SIV) enveloped protein gp41 (AGM3 isolate). Sequence search motif designations are as in FIG. 20.

FIG. 23. Search results for canine distemper virus (strain Onderstepoort) fusion glycoprotein 1. Sequence search motif designations are as in FIG. 20.

FIG. 24. Search results for newcastle disease virus (strain Australia-Victoria/32) fusion glycoprotein F1. Sequence search motif designations are as in FIG. 20.

FIG. 25. Search results for human parainfluenza 3 virus (strain NIH 47885) fusion glycoprotein F1. Sequence search motif designations are as in FIG. 20.

FIG. 26. Search results for influenza A virus (strain A/AICHI/2/68) hemagglutinin precursor HA2. Sequence search designations are as in FIG. 20.

FIG. 27A-D. Respiratory Syncytial Virus (RSV) peptide antiviral and circular dichroism data. FIG. 27A-B: Peptides derived from the F2 DP178/DP107-like region. Antiviral and CD data. FIG. 27C-D: Peptides derived from the F1 DP107-like region. Peptide and CD data.

Antiviral activity (AV) is represented by the following qualitative symbols:

"-", negative antiviral activity;

"+/-", antiviral activity at greater than 100μg/ml;

"+", antiviral activity at between 50-100μg/ml;

"++", antiviral activity at between 20-50μg/ml;

"+++", antiviral activity at between 1-20μg/ml;

"++++", antiviral activity at <1μg/ml.

CD data, referring to the level of helicity is represented by the following qualitative symbol:

"-", no helicity;

"+", 25-50% helicity;

"++", 50-75% helicity;

"+++"' 75-100% helicity.

IC_{50} refers to the concentration of peptide necessary to produce only 50% of the number of syncytial relative to infected control cultures

containing no peptide. IC_{50} values were obtained using purified peptides only.

FIG. 28A-B. Respiratory Syncytial Virus (RSV) DP178-like region (F1) peptide antiviral and CD data. Antiviral symbols, CD symbols, and IC_{50} are as in FIG. 27A-D. IC_{50} values were obtained using purified peptides only.

FIG. 29A-B. Peptides derived from the HPIV3 F1 DP107-like region. Peptide antiviral and CD data. Antiviral symbols, CD symbols, and IC_{50} are as in FIG. 27A-D. Purified peptides were used to obtain IC_{50} values, except where the values are marked by an asterisk (*), in which cases, the IC_{50} values were obtained using a crude peptide preparation.

FIG. 30A-B. Peptides derived from the HPIV3 F1 DP178-like region. Peptide antiviral and CD data. Antiviral symbols, CD symbols, and IC_{50} are as in FIG. 27A-D. Purified peptides were used to obtain IC_{50} values, except where the values are marked by an asterisk (*), in which cases, the IC_{50} values were obtained using a crude peptide preparation.

FIG. 31. Motif search results for simian immunodeficiency virus (SIV) isolate MM251, enveloped polyprotein gp41. Sequence search designations are as in FIG. 20.

FIG. 32. Motif search results for Epstein-Barr Virus (Strain B95-8), glycoprotein gp110 precursor (designated gp115). BALF4. Sequence search designations are as in FIG. 20.

FIG. 33. Motif search results for Epstein-Barr Virus (Strain B95-8), BZLF1 trans-activator protein (designated EB1 or Zebra). Sequence search designations are as in FIG. 20. Additionally, "@" refers to a well known DNA binding domain and "+" refers to a well known dimerization domain, as defined

by Flemington and Speck (Flemington, E. and Speck, S.H., 1990, Proc. Natl. Acad. Sci. USA 87:9459-9463).

FIG. 34. Motif search results for measles virus (strain Edmonston), fusion glycoprotein F1. Sequence search designations are as in FIG. 20.

FIG. 35. Motif search results for Hepatitis B Virus (Subtype AYW), major surface antigen precursor S. Sequence search designations are as in FIG. 20.

FIG. 36. Motif search results for simian Mason-Pfizer monkey virus, enveloped (TM) protein gp20. Sequence search designations are as in FIG. 20.

FIG. 37. Motif search results for Pseudomonas aerginosa, fimbrial protein (Pilin). Sequence search designations are as in FIG. 20.

FIG. 38. Motif search results for Neisseria gonorrhoeae fimbrial protein (Pilin). Sequence search designations are as in FIG. 20.

FIG. 39. Motif search results for Hemophilus influenzae fimbrial protein. Sequence search designations are as in FIG. 20.

FIG. 40. Motif search results for Staphylococcus aureus, toxic shock syndrome toxin-1. Sequence search designations are as in FIG. 20.

FIG. 41. Motif search results for Staphylococcus aureus enterotoxin Type E. Sequence search designations are as in FIG. 20.

FIG. 42. Motif search results for Staphylococcus aureus enterotoxin A. Sequence search designations are as in FIG. 20.

FIG. 43. Motif search results for Escherichia coli, heat labile enterotoxin A. Sequence search designations are as in FIG. 20.

FIG. 44. Motif search results for human c-fos proto-oncoprotein. Sequence search designations are as in FIG. 20.

FIG. 45. Motif search results for human lupus KU autoantigen protein P70. Sequence search designations are as in FIG. 20.

FIG. 46. Motif search results for human zinc finger protein 10. Sequence search designations are as in FIG. 20.

FIG. 47. Measles virus (MeV) fusion protein DP178-like region antiviral and CD data. Antiviral symbols, CD symbols, and IC_{50} are as in FIG. 27A-D. IC_{50} values were obtained using purified peptides.

FIG. 48. Simian immunodeficiency virus (SIV) TM (fusion) protein DP178-like region antiviral data. Antiviral symbols are as in FIG. 27A-D "NT", not tested.

FIG. 49A-C. DP178-derived peptide antiviral data. The peptides listed herein were derived from the region surrounding the HIV-1 BRU isolate DP178 region (e.g., gp41 amino acid residues 615-717).

In instances where peptides contained DP178 point mutations, the mutated amino acid residues are shown with a shaded background. In instances in which the test peptide has had an amino and/or carboxy-terminal group added or removed (apart from the standard amido- and acetyl- blocking groups found on such peptides), such modifications are indicated. FIG. 49A: The column to the immediate right of the name of the test peptide indicates the size of the test peptide and points out whether the peptide is derived from a one amino acid peptide "walk" across the DP178 region. The next column to the right indicates whether the test peptide contains a point mutation, while the column to its right indicates whether certain amino acid residues have been added to or removed from the DP178-derived amino acid sequence. FIG 49B: The column to the immediate right of the test peptide name

indicates whether the peptide represents a DP178 truncation, the next column to the right points out whether the peptide contains a point mutation, and the column to its right indicates whether the peptide contains amino acids which have been added to or removed from the DP178 sequence itself. FIG. 49C: The column to the immediate right of the test peptide name indicates whether the test peptide contains a point mutation, while the column to its right indicates whether amino acid residues have been added to or removed from the DP178 sequence itself. IC_{50} is as defined in FIG. 27A-D, and IC_{50} values were obtained using purified peptides except where marked with an asterisk (*), in which case the IC_{50} was obtained using a crude peptide preparation.

FIG. 50. DP107 and DP107 gp41 region truncated peptide antiviral data. IC_{50} as defined in FIG. 27A-D, and IC_{50} values were obtained using purified peptides except where marked with an asterisk (*), in which case the IC_{50} was obtained using a crude peptide preparation.

FIG. 51A-B. Epstein-Barr virus Strain B95-8 BZLF1 DP178/DP107 analog region peptide walks and electrophoretic mobility shift assay results. The peptides (T-423 to T-446, FIG. 51A; T-447 to T-461, FIG. 51B) represent one amino acid residue "walks" through the EBV Zebra protein region from amino acid residue 173 to 246.

The amino acid residue within this region which corresponds to the first amino acid residue of each peptide is listed to the left of each peptide, while the amino acid residue within this region which corresponds to the last amino acid residue of each peptide is listed to the right of each peptide. The

length of each test peptide is listed at the far right of each line, under the heading "Res".

"ACT" refers to a test peptide's ability to inhibit Zebra binding to its response element. "+" refers to a visible, but incomplete, abrogation of the response element/Zebra homodimer complex; "+++" refers to a complete abrogation of the complex; and "-" represents a lack of complex disruption.

FIG. 52A-B. Hepatitis B virus subtype AYW major surface antigen precursor S protein DP178/DP107 analog region and peptide walks. 52A depicts Domain I (S protein amino acid residues 174-220), which contains a potential DP178/DP107 analog region. In addition, peptides are listed which represent one amino acid peptide "walks" through domain I. 52B depicts Domain II (S protein amino acid residues 233-291), which contains a second potential DP178/DP107 analog region. In addition, peptides are listed which represent one amino acid peptide "walks" through domain II.

5. DETAILED DESCRIPTION OF THE INVENTION

Described herein are peptides which may exhibit antifusogenic activity, antiviral capability, and/or the ability to modulate intracellular processes involving coiled-coil peptide structures. The peptides described include, first, DP178 (SEQ ID NO:1), a gp41-derived 36 amino acid peptide and fragments and analogs of DP178.

In addition, the peptides of the invention described herein include peptides which are DP107 analogs. DP107 (SEQ ID NO:25) is a 38 amino acid peptide corresponding to residues 558 to 595 of the HIV-1_{LAI} transmembrane (TM) gp41 protein. Such DP107 analogs may exhibit antifusogenic capability, antiviral activity or an ability to modulate

intracellular processes involving coiled-coil structures.

Further, peptides of the invention include DP107 and DP178 are described herein having amino acid sequences recognized by the 107x178x4, ALLMOTI5, and PLZIP search motifs. Such motifs are also discussed.

Also described here are antifusogenic, antiviral, intracellular modulatory, and diagnostic uses of the peptides of the invention. Further, procedures are described for the use of the peptides of the invention for the identification of compounds exhibiting antifusogenic, antiviral or intracellular modulatory activity.

While not limited to any theory of operation, the following model is proposed to explain the potent anti-HIV activity of DP178, based, in part, on the experiments described in the Examples, infra. In the HIV protein, gp41, DP178 corresponds to a putative α-helix region located in the C-terminal end of the gp41 ectodomain, and appears to associate with a distal site on gp41 whose interactive structure is influenced by the leucine zipper motif, a coiled-coil structure, referred to as DP107. The association of these two domains may reflect a molecular linkage or "molecular clasp" intimately involved in the fusion process. It is of interest that mutations in the C-terminal α-helix motif of gp41 (i.e., the D178 domain) tend to enhance the fusion ability of gp41, whereas mutations in the leucine zipper region (i.e., the DP107 domain) decrease or abolish the fusion ability of the viral protein. It may be that the leucine zipper motif is involved in membrane fusion while the C-terminal α-helix motif serves as a molecular safety to regulate the availability of the leucine zipper during virus-induced membrane fusion.

On the basis of the foregoing, two models are proposed of gp41-mediated membrane fusion which are schematically shown in FIG. 11A-B. The reason for proposing two models is that the temporal nature of the interaction between the regions defined by DP107 and DP178 cannot, as yet, be pinpointed. Each model envisions two conformations for gp41 - one in a "native" state as it might be found on a resting virion. The other in a "fusogenic" state to reflect conformational changes triggered following binding of gp120 to CD4 and just prior to fusion with the target cell membrane. The strong binding affinity between gp120 and CD4 may actually represent the trigger for the fusion process obviating the need for a pH change such as occurs for viruses that fuse within intracellular vesicles. The two major features of both models are: (1) the leucine zipper sequences (DP107) in each chain of oligomeric enveloped are held apart in the native state and are only allowed access to one another in the fusogenic state so as to form the extremely stable coiled-coils, and (2) association of the DP178 and DP107 sites as they exist in gp41 occur either in the native or fusogenic state. FIG. 11A depicts DP178/DP107 interaction in the native state as a molecular clasp. On the other hand, if one assumes that the most stable form of the enveloped occurs in the fusogenic state, the model in FIG. 11B can be considered.

When synthesized as peptides, both DP107 and DP178 are potent inhibitors of HIV infection and fusion, probably by virtue of their ability to form complexes with viral gp41 and interfere with its fusogenic process; e.g., during the structural transition of the viral protein from the native structure to the fusogenic state, the DP178 and DP107

peptides may gain access to their respective binding sites on the viral gp41, and exert a disruptive influence. DP107 peptides which demonstrate anti-HIV activity are described in Applicants' co-pending application Serial No. 08/264,531, filed June 23, 1994, which is incorporated by reference herein in its entirety.

As shown in the Examples, infra, a truncated recombinant gp41 protein corresponding to the ectodomain of gp41 containing both DP107 and DP178 domains (excluding the fusion peptide, transmembrane region and cytoplasmic domain of gp41) did not inhibit HIV-1 induced fusion. However, when a single mutation was introduced to disrupt the coiled-coil structure of the DP107 domain -- a mutation which results in a total loss of biological activity of DP107 peptides -- the inactive recombinant protein was transformed to an active inhibitor of HIV-1 induced fusion. This transformation may result from liberation of the potent DP178 domain from a molecular clasp with the leucine zipper, DP107 domain.

For clarity of discussion, the invention will be described primarily for DP178 peptide inhibitors of HIV. However, the principles may be analogously applied to other viruses, both enveloped and nonenveloped, and to other non-viral organisms.

5.1. DP178 AND DP178-LIKE PEPTIDES

The DP178 peptide (SEQ ID:1) of the invention corresponds to amino acid residues 638 to 673 of the transmembrane protein gp41 from the HIV-1_{LAI} isolate, and has the 36 amino acid sequence (reading from amino to carboxy terminus):

NH_2-YTSLIHSLIEESQNQQEKNEQELLELDKWASLWNWF-COOH (SEQ ID:1)

In addition to the full-length DP178 (SEQ ID:1) 36-mer, the peptides of the invention may include truncations of the DP178 (SEQ ID:1) peptide which exhibit antifusogenic activity, antiviral activity and/or the ability to modulate intracellular processes involving coiled-coil peptide structures. Truncations of DP178 (SEQ ID:1) peptides may comprise peptides of between 3 and 36 amino acid residues (i.e., peptides ranging in size from a tripeptide to a 36-mer polypeptide), as shown in Tables I and IA, below. Peptide sequences in these tables are listed from amino (left) to carboxy (right) terminus. "X" may represent an amino group ($-NH_2$) and "Z" may represent a carboxyl (-COOH) group. Alternatively, "X" may represent a hydrophobic group, including but not limited to carbobenzyl, dansyl, or T-butoxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (FMOC) group; or a covalently attached macromolecular group, including but not limited to a lipid-fatty acid conjugate, polyethylene glycol, carbohydrate or peptide group. Further, "Z" may represent an amido group; a T-butoxycarbonyl group; or a covalently attached macromolecular group, including but not limited to a lipid-fatty acid conjugate, polyethylene glycol, carbohydrate or peptide group. A preferred "X" or "Z" macromolecular group is a peptide group.

TABLE I
DP178 (SEQ ID:1) CARBOXY TRUNCATIONS

X-YTS-Z
X-YTSL-Z
X-YTSLI-Z
X-YTSLIH-Z
X-YTSLIHS-Z
X-YTSLIHSL-Z
X-YTSLIHSLI-Z
X-YTSLIHSLIE-Z
X-YTSLIHSLIEE-Z
X-YTSLIHSLIEES-Z
X-YTSLIHSLIEESQ-Z
X-YTSLIHSLIEESQN-Z
X-YTSLIHSLIEESQNQ-Z
X-YTSLIHSLIEESQNQQ-Z
X-YTSLIHSLIEESQNQQE-Z
X-YTSLIHSLIEESQNQQEK-Z
X-YTSLIHSLIEESQNQQEKN-Z
X-YTSLIHSLIEESQNQQEKNE-Z
X-YTSLIHSLIEESQNQQEKNEQ-Z
X-YTSLIHSLIEESQNQQEKNEQE-Z
X-YTSLIHSLIEESQNQQEKNEQEL-Z
X-YTSLIHSLIEESQNQQEKNEQELL-Z
X-YTSLIHSLIEESQNQQEKNEQELLE-Z
X-YTSLIHSLIEESQNQQEKNEQELLEL-Z
X-YTSLIHSLIEESQNQQEKNEQELLELD-Z
X-YTSLIHSLIEESQNQQEKNEQELLELDK-Z
X-YTSLIHSLIEESQNQQEKNEQELLELDKW-Z
X-YTSLIHSLIEESQNQQEKNEQELLELDKWA-Z
X-YTSLIHSLIEESQNQQEKNEQELLELDKWAS-Z
X-YTSLIHSLIEESQNQQEKNEQELLELDKWASL-Z
X-YTSLIHSLIEESQNQQEKNEQELLELDKWASLW-Z
X-YTSLIHSLIEESQNQQEKNEQELLELDKWASLWN-Z
X-YTSLIHSLIEESQNQQEKNEQELLELDKWASLWNW-Z
X-YTSLIHSLIEESQNQQEKNEQELLELDKWASLWNWF-Z

The one letter amino acid code is used.

Additionally,

"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (FMOC) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

TABLE IA
DP178 (SEQ ID:1) AMINO TRUNCATIONS

X-NWF-Z
X-WNWF-Z
X-LWNWF-Z
X-SLWNWF-Z
X-ASLWNWF-Z
X-WASLWNWF-Z
X-KWASLWNWF-Z
X-DKWASLWNWF-Z
X-LDKWASLWNWF-Z
X-ELDKWASLWNWF-Z
X-LELDKWASLWNWF-Z
X-LLELDKWASLWNWF-Z
X-ELLELDKWASLWNWF-Z
X-QELLELDKWASLWNWF-Z
X-EQELLELDKWASLWNWF-Z
X-NEQELLELDKWASLWNWF-Z
X-KNEQELLELDKWASLWNWF-Z
X-EKNEQELLELDKWASLWNWF-Z
X-QEKNEQELLELDKWASLWNWF-Z
X-QQEKNEQELLELDKWASLWNWF-Z
X-NQQEKNEQELLELDKWASLWNWF-Z
X-QNQQEKNEQELLELDKWASLWNWF-Z
X-SQNQQEKNEQELLELDKWASLWNWF-Z
X-ESQNQQEKNEQELLELDKWASLWNWF-Z
X-EESQNQQEKNEQELLELDKWASLWNWF-Z
X-IEESQNQQEKNEQELLELDKWASLWNWF-Z
X-LIEESQNQQEKNEQELLELDKWASLWNWF-Z
X-SLIEESQNQQEKNEQELLELDKWASLWNWF-Z
X-HSLIEESQNQQEKNEQELLELDKWASLWNWF-Z
X-IHSLIEESQNQQEKNEQELLELDKWASLWNWF-Z
X-LIHSLIEESQNQQEKNEQELLELDKWASLWNWF-Z
X-SLIHSLIEESQNQQEKNEQELLELDKWASLWNWF-Z
X-TSLIHSLIEESQNQQEKNEQELLELDKWASLWNWF-Z
X-YTSLIHSLIEESQNQQEKNEQELLELDKWASLWNWF-Z

The one letter amino acid code is used.

Additionally,

"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

The peptides of the invention also include DP178-like peptides. "DP178-like", as used herein, refers, first, to DP178 and DP178 truncations which contain one or more amino acid substitutions, insertions and/or deletions. Second, "DP-178-like" refers to peptide sequences identified or recognized by the ALLMOTI5, 107x178x4 and PLZIP search motifs described herein, having structural and/or amino acid motif similarity to DP178. The DP178-like peptides of the invention may exhibit antifusogenic or antiviral activity, or may exhibit the ability to modulate intracellular processes involving coiled-coil peptides. Further, such DP178-like peptides may possess additional advantageous features, such as, for example, increased bioavailability, and/or stability, or reduced host immune recognition.

HIV-1 and HIV-2 enveloped proteins are structurally distinct, but there exists a striking amino acid conservation within the DP178-corresponding regions of HIV-1 and HIV-2. The amino acid conservation is of a periodic nature, suggesting some conservation of structure and/or function. Therefore, one possible class of amino acid substitutions would include those amino acid changes which are predicted to stabilize the structure of the DP178 peptides of the invention. Utilizing the DP178 and DP178 analog sequences described herein, the skilled artisan can readily compile DP178 consensus sequences and ascertain from these, conserved amino acid residues which would represent preferred amino acid substitutions.

The amino acid substitutions may be of a conserved or non-conserved nature. Conserved amino acid substitutions consist of replacing one or more amino acids of the DP178 (SEQ ID:1) peptide sequence with amino acids of similar charge, size, and/or

hydrophobicity characteristics, such as, for example, a glutamic acid (E) to aspartic acid (D) amino acid substitution. Non-conserved substitutions consist of replacing one or more amino acids of the DP178 (SEQ ID:1) peptide sequence with amino acids possessing dissimilar charge, size, and/or hydrophobicity characteristics, such as, for example, a glutamic acid (E) to valine (V) substitution.

Amino acid insertions may consist of single amino acid residues or stretches of residues. The insertions may be made at the carboxy or amino terminal end of the DP178 or DP178 truncated peptides, as well as at a position internal to the peptide. Such insertions will generally range from 2 to 15 amino acids in length. It is contemplated that insertions made at either the carboxy or amino terminus of the peptide of interest may be of a broader size range, with about 2 to about 50 amino acids being preferred. One or more such insertions may be introduced into DP178 (SEQ.ID:1) or DP178 truncations, as long as such insertions result in peptides which may still be recognized by the 107x178x4, ALLMOTI5 or PLZIP search motifs described herein, or may, alternatively, exhibit antifusogenic or antiviral activity, or exhibit the ability to modulate intracellular processes involving coiled-coil peptide structures.

Preferred amino or carboxy terminal insertions are peptides ranging from about 2 to about 50 amino acid residues in length, corresponding to gp41 protein regions either amino to or carboxy to the actual DP178 gp41 amino acid sequence, respectively. Thus, a preferred amino terminal or carboxy terminal amino acid insertion would contain gp41 amino acid sequences found immediately amino to or carboxy to the DP178 region of the gp41 protein.

Deletions of DP178 (SEQ ID:1) or DP178 truncations are also within the scope of the invention. Such deletions consist of the removal of one or more amino acids from the DP178 or DP178-like peptide sequence, with the lower limit length of the resulting peptide sequence being 4 to 6 amino acids. Such deletions may involve a single contiguous or greater than one discrete portion of the peptide sequences. One or more such deletions may be introduced into DP178 (SEQ.ID:1) or DP178 truncations, as long as such deletions result in peptides which may still be recognized by the 107x178x4, ALLMOTI5 or PLZIP search motifs described herein, or may, alternatively, exhibit antifusogenic or antiviral activity, or exhibit the ability to modulate intracellular processes involving coiled-coil peptide structures.

DP178 analogs are further described, below, in Section 5.3.

5.2. DP107 AND DP107-LIKE PEPTIDES

Further, the peptides of the invention include peptides having amino acid sequences corresponding to DP107 analogs. DP107 is a 38 amino acid peptide which exhibits potent antiviral activity, and corresponds to residues 558 to 595 of HIV-1_{LAI} transmembrane (TM) gp41 protein, as shown here:

NH_2-NNLLRAIEAQQHLLQLTVWQIKQLQARILAVERYLKDQ-COOH
(SEQ ID:25)

In addition to the full-length DP107 (SEQ ID:25) 38-mer, the peptides of the invention may include truncations of the DP107 (SEQ ID:25) peptide which exhibit antifusogenic activity, antiviral activity and/or the ability to modulate intracellular processes

involving coiled-coil peptide structures. Truncations of DP107 (SEQ ID:25) peptides may comprise peptides of between 3 and 38 amino acid residues (i.e., peptides ranging in size from a tripeptide to a 38-mer polypeptide), as shown in Tables II and IIA, below. Peptide sequences in these tables are listed from amino (left) to carboxy (right) terminus. "X" may represent an amino group ($-NH_2$) and "Z" may represent a carboxyl (-COOH) group. Alternatively, "X" may represent a hydrophobic group, including but not limited to carbobenzyl, dansyl, or T-butoxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (FMOC) group; or a covalently attached macromolecular group, including but not limited to a lipid-fatty acid conjugate, polyethylene glycol, carbohydrate or peptide group. Further, "Z" may represent an amido group; a T-butoxycarbonyl group; or a covalently attached macromolecular group, including but not limited to a lipid-fatty acid conjugate, polyethylene glycol, carbohydrate or peptide group. A preferred "X" or "Z" macromolecular group is a peptide group.

TABLE II
DP107 (SEQ ID:25) CARBOXY TRUNCATIONS

X-NNL-Z
X-NNLL-Z
X-NNLLR-Z
X-NNLLRA-Z
X-NNLLRAI-Z
X-NNLLRAIE-Z
X-NNLLRAIEA-Z
X-NNLLRAIEAQ-Z
X-NNLLRAIEAQQ-Z
X-NNLLRAIEAQQH-Z
X-NNLLRAIEAQQHL-Z
X-NNLLRAIEAQQHLL-Z
X-NNLLRAIEAQQHLLQ-Z
X-NNLLRAIEAQQHLLQL-Z
X-NNLLRAIEAQQHLLQLT-Z
X-NNLLRAIEAQQHLLQLTV-Z
X-NNLLRAIEAQQHLLQLTVW-Z
X-NNLLRAIEAQQHLLQLTVWQ-Z
X-NNLLRAIEAQQHLLQLTVWQI-Z
X-NNLLRAIEAQQHLLQLTVWQIK-Z
X-NNLLRAIEAQQHLLQLTVWQIKQ-Z
X-NNLLRAIEAQQHLLQLTVWQIKQL-Z
X-NNLLRAIEAQQHLLQLTVWQIKQLQ-Z
X-NNLLRAIEAQQHLLQLTVWQIKQLQA-Z
X-NNLLRAIEAQQHLLQLTVWQIKQLQAR-Z
X-NNLLRAIEAQQHLLQLTVWQIKQLQARI-Z
X-NNLLRAIEAQQHLLQLTVWQIKQLQARIL-Z
X-NNLLRAIEAQQHLLQLTVWQIKQLQARILA-Z
X-NNLLRAIEAQQHLLQLTVWQIKQLQARILAV-Z
X-NNLLRAIEAQQHLLQLTVWQIKQLQARILAVE-Z
X-NNLLRAIEAQQHLLQLTVWQIKQLQARILAVER-Z
X-NNLLRAIEAQQHLLQLTVWQIKQLQARILAVERY-Z
X-NNLLRAIEAQQHLLQLTVWQIKQLQARILAVERYL-Z
X-NNLLRAIEAQQHLLQLTVWQIKQLQARILAVERYLK-Z
X-NNLLRAIEAQQHLLQLTVWQIKQLQARILAVERYLKD-Z
X-NNLLRAIEAQQHLLQLTVWQIKQLQARILAVERYLKDQ-Z

The one letter amino acid code is used.

Additionally,

"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (FMOC) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

TABLE IIA
DP178 (SEQ ID:25) AMINO TRUNCATIONS

X-KDQ- Z
X-LKDQ- Z
X-YLKDQ- Z
X-RYLKDQ- Z
X-ERYLKDQ- Z
X-VERYLKDQ- Z
X-AVERYLKDQ- Z
X-LAVERYLKDQ- Z
X-ILAVERYLKDQ- Z
X-RILAVERYLKDQ- Z
X-ARILAVERYLKDQ- Z
X-QARILAVERYLKDQ- Z
X-LQARILAVERYLKDQ- Z
X-QLQARILAVERYLKDQ- Z
X-KQLQARILAVERYLKDQ- Z
X-IKQLQARILAVERYLKDQ- Z
X-QIKQLQARILAVERYLKDQ- Z
X-WQIKQLQARILAVERYLKDQ- Z
X-VWQIKQLQARILAVERYLKDQ- Z
X-TVWQIKQLQARILAVERYLKDQ- Z
X-LTVWQIKQLQARILAVERYLKDQ- Z
X-QLTVWQIKQLQARILAVERYLKDQ- Z
X-LQLTVWQIKQLQARILAVERYLKDQ- Z
X-LLQLTVWQIKQLQARILAVERYLKDQ- Z
X-HLLQLTVWQIKQLQARILAVERYLKDQ- Z
X-QHLLQLTVWQIKQLQARILAVERYLKDQ- Z
X-QQHLLQLTVWQIKQLQARILAVERYLKDQ- Z
X-AQQHLLQLTVWQIKQLQARILAVERYLKDQ- Z
X-EAQQHLLQLTVWQIKQLQARILAVERYLKDQ- Z
X-IEAQQHLLQLTVWQIKQLQARILAVERYLKDQ- Z
X-AIEAQQHLLQLTVWQIKQLQARILAVERYLKDQ- Z
X-RAIEAQQHLLQLTVWQIKQLQARILAVERYLKDQ- Z
X-LRAIEAQQHLLQLTVWQIKQLQARILAVERYLKDQ- Z
X-LLRAIEAQQHLLQLTVWQIKQLQARILAVERYLKDQ- Z
X-NLLRAIEAQQHLLQLTVWQIKQLQARILAVERYLKDQ- Z
X-NNLLRAIEAQQHLLQLTVWQIKQLQARILAVERYLKDQ- Z

The one letter amino acid code is used.

Additionally,

"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

The peptides of the invention also include DP107-like peptides. "DP107-like", as used herein, refers, first, to DP107 and DP107 truncations which contain one or more amino acid substitutions, insertions and/or deletions. Second, "DP-107-like" refers to peptide sequences identified or recognized by the ALLMOTI5, 107x178x4 and PLZIP search motifs described herein, having structural and/or amino acid motif similarity to DP107. The DP107-like peptides of the invention may exhibit antifusogenic or antiviral activity, or may exhibit the ability to modulate intracellular processes involving coiled-coil peptides. Further, such DP107-like peptides may possess additional advantageous features, such as, for example, increased bioavailability, and/or stability, or reduced host immune recognition.

HIV-1 and HIV-2 enveloped proteins are structurally distinct, but there exists a striking amino acid conservation within the DP107-corresponding regions of HIV-1 and HIV-2. The amino acid conservation is of a periodic nature, suggesting some conservation of structure and/or function. Therefore, one possible class of amino acid substitutions would include those amino acid changes which are predicted to stabilize the structure of the DP107 peptides of the invention. Utilizing the DP107 and DP107 analog sequences described herein, the skilled artisan can readily compile DP107 consensus sequences and ascertain from these, conserved amino acid residues which would represent preferred amino acid substitutions.

The amino acid substitutions may be of a conserved or non-conserved nature. Conserved amino acid substitutions consist of replacing one or more amino acids of the DP107 (SEQ ID:25) peptide sequence with amino acids of similar charge, size, and/or

hydrophobicity characteristics, such as, for example, a glutamic acid (E) to aspartic acid (D) amino acid substitution. Non-conserved substitutions consist of replacing one or more amino acids of the DP107 (SEQ ID:25) peptide sequence with amino acids possessing dissimilar charge, size, and/or hydrophobicity characteristics, such as, for example, a glutamic acid (E) to valine (V) substitution.

Amino acid insertions may consist of single amino acid residues or stretches of residues. The insertions may be made at the carboxy or amino terminal end of the DP107 or DP107 truncated peptides, as well as at a position internal to the peptide. Such insertions will generally range from 2 to 15 amino acids in length. It is contemplated that insertions made at either the carboxy or amino terminus of the peptide of interest may be of a broader size range, with about 2 to about 50 amino acids being preferred. One or more such insertions may be introduced into DP107 (SEQ.ID:25) or DP107 truncations, as long as such insertions result in peptides which may still be recognized by the 107x178x4, ALLMOTI5 or PLZIP search motifs described herein, or may, alternatively, exhibit antifusogenic or antiviral activity, or exhibit the ability to modulate intracellular processes involving coiled-coil peptide structures.

Preferred amino or carboxy terminal insertions are peptides ranging from about 2 to about 50 amino acid residues in length, corresponding to gp41 protein regions either amino to or carboxy to the actual DP107 gp41 amino acid sequence, respectively. Thus, a preferred amino terminal or carboxy terminal amino acid insertion would contain gp41 amino acid sequences found immediately amino to or carboxy to the DP107 region of the gp41 protein.

Deletions of DP107 (SEQ ID:25) or DP178 truncations are also within the scope of the invention. Such deletions consist of the removal of one or more amino acids from the DP107 or DP107-like peptide sequence, with the lower limit length of the resulting peptide sequence being 4 to 6 amino acids. Such deletions may involve a single contiguous or greater than one discrete portion of the peptide sequences. One or more such deletions may be introduced into DP107 (SEQ.ID:25) or DP107 truncations, as long as such deletions result in peptides which may still be recognized by the 107x178x4, ALLMOTI5 or PLZIP search motifs described herein, or may, alternatively, exhibit antifusogenic or antiviral activity, or exhibit the ability to modulate intracellular processes involving coiled-coil peptide structures.

DP107 and DP107 truncations are more fully described in Applicants' co-pending U.S. Patent Application Ser. No. 08/374,666, filed January 27, 1995, and which is incorporated herein by reference in its entirety. DP107 analogs are further described, below, in Section 5.3.

5.3. DP107 and DP178 ANALOGS

Peptides corresponding to analogs of the DP178, DP178 truncations, DP107 and DP107 truncation sequences of the invention, described, above, in Sections 5.1 and 5.2 may be found in other viruses, including, for example, non-HIV-1_{LAI} enveloped viruses, non-enveloped viruses and other non-viral organisms.

The term "analog", as used herein, refers to a peptide which is recognized or identified via the 107x178x4, ALLMOTI5 and/or PLZIP search strategies discussed below. Further, such peptides may exhibit antifusogenic capability, antiviral activity, or the

ability to modulate intracellular processes involving coiled-coil structures.

Such DP178 and DP107 analogs may, for example, correspond to peptide sequences present in TM proteins of enveloped viruses and may, additionally correspond to peptide sequences present in non enveloped and non-viral organisms. Such peptides may exhibit antifusogenic activity, antiviral activity, most particularly antiviral activity which is specific to the virus in which their native sequences are found, or may exhibit an ability to modulate intracellular processes involving coiled-coil peptide structures.

DP178 analogs are peptides whose amino acid sequences are comprised of the amino acid sequences of peptide regions of, for example, other (i.e., other than HIV-1_{LAI}) viruses that correspond to the gp41 peptide region from which DP178 (SEQ ID:1) was derived. Such viruses may include, but are not limited to, other HIV-1 isolates and HIV-2 isolates. DP178 analogs derived from the corresponding gp41 peptide region of other (i.e., non HIV-1_{LAI}) HIV-1 isolates may include, for example, peptide sequences as shown below.

NH_2-YTNTIYTLLEESQNQQEKNEQELLELDKWASLWNWF-COOH (DP-185; SEQ ID:3);

NH_2-YTGIIYNLLEESQNQQEKNEQELLELDKWANLWNWF-COOH (SEQ ID:4);

NH_2-YTSLIYSLLEKSQIQQEKNEQELLELDKWASLWNWF-COOH (SEQ ID:5).

SEQ ID:3 (DP-185), SEQ ID:4, and SEQ ID:5 are derived from HIV-1_{SF2}, HIV-1_{RF}, and HIV-1_{MN} isolates, respectively. Underlined amino acid residues refer to those residues that differ from the corresponding position in the DP178 (SEQ ID:1) peptide. One such

DP178 analog, DP-185 (SEQ ID:3), is described in the Example presented in Section 6, below, where it is demonstrated that DP-185 (SEQ ID:3) exhibits antiviral activity. The DP178 analogs of the invention may also include truncations, as described above. Further, the analogs of the invention modifications such those described for DP178 analogs in Section 5.1., above. It is preferred that the DP178 analogs of the invention represent peptides whose amino acid sequences correspond to the DP178 region of the gp41 protein, it is also contemplated that the peptides of the invention may, additionally, include amino sequences, ranging from about 2 to about 50 amino acid residues in length, corresponding to gp41 protein regions either amino to or carboxy to the actual DP178 amino acid sequence.

Striking similarities, as shown in FIG. 1, exist within the regions of HIV-1 and HIV-2 isolates which correspond to the DP178 sequence. A DP178 analog derived from the HIV-2_{NIHZ} isolate has the 36 amino acid sequence (reading from amino to carboxy terminus):

NH_2-LEANISQSLEQAQIQQEKNMYELQKLNSWDVFTNWL-COOH (SEQ ID:7)

Table III and Table IV show some possible truncations of the HIV-2_{NIHZ} DP178 analog, which may comprise peptides of between 3 and 36 amino acid residues (i.e., peptides ranging in size from a tripeptide to a 36-mer polypeptide). Peptide sequences in these tables are listed from amino (left) to carboxy (right) terminus. "X" may represent an amino group (-NH_2) and "Z" may represent a carboxyl (-COOH) group. Alternatively, "X" may represent a hydrophobic group, including but not limited to carbobenzyl, dansyl, or T-butoxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (FMOC) group; or a

covalently attached macromolecular group, including but not limited to a lipid-fatty acid conjugate, polyethylene glycol, carbohydrate or peptide group. Further, "Z" may represent an amido group; a T-butoxycarbonyl group; or a covalently attached macromolecular group, including but not limited to a lipid-fatty acid conjugate, polyethylene glycol, carbohydrate or peptide group. A preferred "X" or "Z" macromolecular group is a peptide group.

TABLE III

HIV-2_{NIH2} DP178 analog carboxy truncations.

X-LEA-Z
X-LEAN-Z
X-LEANI-Z
X-LEANIS-Z
X-LEANISQ-Z
X-LEANISQS-Z
X-LEANISQSL-Z
X-LEANISQSLE-Z
X-LEANISQSLEQ-Z
X-LEANISQSLEQA-Z
X-LEANISQSLEQAQ-Z
X-LEANISQSLEQAQI-Z
X-LEANISQSLEQAQIQ-Z
X-LEANISQSLEQAQIQQ-Z
X-LEANISQSLEQAQIQQE-Z
X-LEANISQSLEQAQIQQEK-Z
X-LEANISQSLEQAQIQQEKN-Z
X-LEANISQSLEQAQIQQEKNM-Z
X-LEANISQSLEQAQIQQEKNMY-Z
X-LEANISQSLEQAQIQQEKNMYE-Z
X-LEANISQSLEQAQIQQEKNMYEL-Z
X-LEANISQSLEQAQIQQEKNMYELQ-Z
X-LEANISQSLEQAQIQQEKNMYELQK-Z
X-LEANISQSLEQAQIQQEKNMYELQKL-Z
X-LEANISQSLEQAQIQQEKNMYELQKLN-Z
X-LEANISQSLEQAQIQQEKNMYELQKLNS-Z
X-LEANISQSLEQAQIQQEKNMYELQKLNSW-Z
X-LEANISQSLEQAQIQQEKNMYELQKLNSWD-Z
X-LEANISQSLEQAQIQQEKNMYELQKLNSWDV-Z
X-LEANISQSLEQAQIQQEKNMYELQKLNSWDVF-Z
X-LEANISQSLEQAQIQQEKNMYELQKLNSWDVFT-Z
X-LEANISQSLEQAQIQQEKNMYELQKLNSWDVFTN-Z
X-LEANISQSLEQAQIQQEKNMYELQKLNSWDVFTNW-Z
X-LEANISQSLEQAQIQQEKNMYELQKLNSWDVFTNWL-Z

The one letter amino acid code is used.

Additionally,

"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (FMOC) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

TABLE IV

HIV-2_{NIHZ} DP178 analog amino truncations.

X-NWL-Z
X-TNWL-Z
X-FTNWL-Z
X-VFTNWL-Z
X-DVFTNWL-Z
X-WDVFTNWL-Z
X-SWDVFTNWL-Z
X-NSWDVFTNWL-Z
X-LNSWDVFTNWL-Z
X-KLNSWDVFTNWL-Z
X-QKLNSWDVFTNWL-Z
X-LQKLNSWDVFTNWL-Z
X-ELQKLNSWDVFTNWL-Z
X-YELQKLNSWDVFTNWL-Z
X-MYELQKLNSWDVFTNWL-Z
X-NMYELQKLNSWDVFTNWL-Z
X-KNMYELQKLNSWDVFTNWL-Z
X-EKNMYELQKLNSWDVFTNWL-Z
X-QEKNMYELQKLNSWDVFTNWL-Z
X-QQEKNMYELQKLNSWDVFTNWL-Z
X-IQQEKNMYELQKLNSWDVFTNWL-Z
X-QIQQEKNMYELQKLNSWDVFTNWL-Z
X-AQIQQEKNMYELQKLNSWDVFTNWL-Z
X-QAQIQQEKNMYELQKLNSWDVFTNWL-Z
X-EQAQIQQEKNMYELQKLNSWDVFTNWL-Z
X-LEQAQIQQEKNMYELQKLNSWDVFTNWL-Z
X-SLEQAQIQQEKNMYELQKLNSWDVFTNWL-Z
X-QSLEQAQIQQEKNMYELQKLNSWDVFTNWL-Z
X-SQSLEQAQIQQEKNMYELQKLNSWDVFTNWL-Z
X-ISQSLEQAQIQQEKNMYELQKLNSWDVFTNWL-Z
X-NISQSLEQAQIQQEKNMYELQKLNSWDVFTNWL-Z
X-ANISQSLEQAQIQQEKNMYELQKLNSWDVFTNWL-Z
X-EANISQSLEQAQIQQEKNMYELQKLNSWDVFTNWL-Z
X-LEANISQSLEQAQIQQEKNMYELQKLNSWDVFTNWL-Z

The one letter amino acid code is used.

Additionally,

"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (FMOC) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

DP178 and DP107 analogs are recognized or identified, for example, by utilizing one or more of the 107x178x4, ALLMOTI5 or PLZIP computer-assisted search strategies described and demonstrated, below, in the Examples presented in Sections 9 through 16 and 19 through 25. The search strategy identifies additional peptide regions which are predicted to have structural and/or amino acid sequence features similar to those of DP107 and/or DP178.

The search strategies are described fully, below, in the Example presented in Section 9. While this search strategy is based, in part, on a primary amino acid motif deduced from DP107 and DP178, it is not based solely on searching for primary amino acid sequence homologies, as such protein sequence homologies exist within, but not between major groups of viruses. For example, primary amino acid sequence homology is high within the TM protein of different strains of HIV-1 or within the TM protein of different isolates of simian immunodeficiency virus (SIV). Primary amino acid sequence homology between HIV-1 and SIV, however, is low enough so as not to be useful. It is not possible, therefore, to find peptide regions similar to DP107 or DP178 within other viruses, or within non-viral organisms, whether structurally, or otherwise, based on primary sequence homology, alone.

Further, while it would be potentially useful to identify primary sequence arrangements of amino acids based on, for example, the physical chemical characteristics of different classes of amino acids rather than based on the specific amino acids themselves, such search strategies have, until now, proven inadequate. For example, a computer algorithm designed by Lupas et al. to identify coiled-coil propensities of regions within proteins (Lupas, A., et al., 1991 Science 252:1162-1164) is inadequate for

identifying protein regions analogous to DP107 or DP178.

Specifically, analysis of HIV-1 gp160 (containing both gp120 and gp41) using the Lupas algorithm does not identify the coiled-coil region within DP107. It does, however, identify a region within DP178 beginning eight amino acids N-terminal to the start of DP178 and ending eight amino acids from the C-terminus. The DP107 peptide has been shown experimentally to form a stable coiled coil. A search based on the Lupas search algorithm, therefore, would not have identified the DP107 coiled-coil region. Conversely, the Lupas algorithm identified the DP178 region as a potential coiled-coil motif. However, the peptide derived from the DP178 region failed to form a coiled coil in solution.

A possible explanation for the inability of the Lupas search algorithm to accurately identify coiled-coil sequences within the HIV-1 TM, is that the Lupas algorithm is based on the structure of coiled coils from proteins that are not structurally or functionally similar to the TM proteins of viruses, antiviral peptides (e.g. DP107 and DP178) of which are an object of this invention.

The computer search strategy of the invention, as demonstrated in the Examples presented below, in Sections 9 through 16 and 19 through 25, successfully identifies regions of proteins similar to DP107 or DP178. This search strategy was designed to be used with a commercially-available sequence database package, preferably PC/Gene.

A series of search motifs, the 107x178x4, ALLMOTI5 and PLZIP motifs, were designed and engineered to range in stringency from strict to broad, as discussed in this Section and in Section 9, with 107x178x4 being preferred. The sequences

identified via such search motifs, such as those listed in Tables V-XIV, below, potentially exhibit antifusogenic, such as antiviral, activity, may additionally be useful in the identification of antifusogenic, such as antiviral, compounds, and are intended to be within the scope of the invention.

Coiled-coiled sequences are thought to consist of heptad amino acid repeats. For ease of description, the amino acid positions within the heptad repeats are sometimes referred to as A through G, with the first position being A, the second B, etc. The motifs used to identify DP107-like and DP178-like sequences herein are designed to specifically search for and identify such heptad repeats. In the descriptions of each of the motifs described, below, amino acids enclosed by brackets , i.e., [], designate the only amino acid residues that are acceptable at the given position, while amino acids enclosed by braces, i.e., {}, designate the only amino acids which are unacceptable at the given heptad position. When a set of bracketed or braced amino acids is followed by a number in parentheses i.e., (), it refers to the number of subsequent amino acid positions for which the designated set of amino acids hold, e.g, a (2) means "for the next two heptad amino acid positions".

The ALLMOTI5 is written as follows:

{CDGHP}-{CFP}(2)-{CDGHP}-{CFP}(3)-
{CDGHP}-{CFP}(2)-{CDGHP}-{CFP}(3)-
{CDGHP}-{CFP}(2)-{CDGHP}-{CFP}(3)-
{CDGHP}-{CFP}(2)-{CDGHP}-{CFP}(3)-
{CDGHP}-{CFP}(2)-{CDGHP}-{CFP}(3)-

Translating this motif, it would read: "at the first (A) position of the heptad, any amino acid residue except C, D, G, H, or P is acceptable, at the next two (B,C) amino acid positions, any amino acid residue except C, F, or P is acceptable, at the fourth heptad position (D), any amino acid residue except C,

D, G, H, or P is acceptable, at the next three (E, F, G) amino acid positions, any amino acid residue except C, F, or P is acceptable. This motif is designed to search for five consecutive heptad repeats (thus the repeat of the first line five times), meaning that it searches for 35-mer sized peptides. It may also be designed to search for 28-mers, by only repeating the initial motif four times. With respect to the ALLMOTI5 motif, a 35-mer search is preferred. Those viral (non-bacteriophage) sequences identified via such an ALLMOTI5 motif are listed in Table V, below, at the end of this Section. The viral sequences listed in Table V potentially exhibit antiviral activity, may be useful in the the identification of antiviral compounds, and are intended to be within the scope of the invention. In those instances wherein a single gene exhibits greater than one sequence recognized by the ALLMOTI5 search motif, the amino a cid residue numbers of these sequences are listed under "Area 2", Area 3", etc. This convention is used for each of the Tables listed, below, at the end of this Section.

The 107x178x4 motif is written as follows:

[EFIKLNQSTVWY]-{CFMP}(2)-[EFIKLNQSTVWY]-{CFMP}(3)-
[EFIKLNQSTVWY]-{CFMP}(2)-[EFIKLNQSTVWY]-{CFMP}(3)-
[EFIKLNQSTVWY]-{CFMP}(2)-[EFIKLNQSTVWY]-{CFMP}(3)-
[EFIKLNQSTVWY]-{CFMP}(2)-[EFIKLNQSTVWY]-{CFMP}(3)-

Translating this motif, it would read: "at the first (A) position of the heptad, only amino acid residue E, F, I, K, L, N, Q, S, T, V, W, or Y is acceptable, at the next two (B,C) amino acid positions, any amino acid residue except C, F, M or P is acceptable, at the fourth position (D), only amino acid residue E, F, I, K, L, N, Q, S, T, V, W, or Y is acceptable, at the next three (E, F, G) amino acid positions, any amino acid residue except C, F, M or P is acceptable. This motif is designed to search for

four consecutive heptad repeats (thus the repeat of the first line four times), meaning that it searches for 28-mer sized peptides. It may also be designed to search for 35-mers, by repeating the initial motif five times. With respect to the 107x178x4 motif, a 28-mer search is preferred.

Those viral (non-bacteriophage) sequences identified via such a 107x178x4 motif are listed in Table VI, below, at the end of this Section, with those viral (non-bacteriophage) sequences listed in Table VII, below at the end of this Section, being preferred.

The 107x178x4 search motif was also utilized to identify non-viral procaryotic protein sequences, as listed in Table VIII, below, at the end of this Section. Further, this search motif was used to reveal a number of human proteins. The results of this human protein 107x178x4 search is listed in Table IX, below, at the end of this Section. The sequences listed in Tables VIII and IX, therefore, reveal peptides which may be useful as antifusogenic compounds or in the identification of antifusogenic compounds, and are intended to be within the scope of the invention.

The PLZIP series of motifs are as listed in FIG. 19. These motifs are designed to identify leucine zipper coiled-coil like heptads wherein at least one proline residue is present at some predefined distance N-terminal to the repeat. These PLZIP motifs find regions of proteins with similarities to HIV-1 DP178 generally located just N-terminal to the transmembrane anchor. These motifs may be translated according to the same convention described above. Each line depicted in FIG. 19 represents a single, complete search motif. "X" in these motifs refers to any amino acid residue. In instances wherein a motif contains

two numbers within parentheses, this refers to a variable number of amino acid residues. For example, X (1,12) is translated to "the next one to twelve amino acid residues, inclusive, may be any amino acid".

Tables X through XIV, below, at the end of this Section, list sequences identified via searches conducted with such PLZIP motifs. Specifically, Table X lists viral sequences identified via PCTLZIP, P1CTLZIP and P2CTLZIP search motifs, Table XI lists viral sequences identified via P3CTLZIP, P4CTLZIP, P5CTLZIP and P6CTLZIP search motifs, Table XII lsts viral sequences identified via P7CTLZIP, P8CTLZIP and P9CTLZIP search motifs, Table XIII lists viral sequences identified via P12LZIPC searches and Table XIV lists viral sequences identified via P23TLZIPC search motifs The viral sequences listed in these tables represent peptides which potentially exhibit antiviral activity, may be useful in the identification of antiviral compounds, and are intended to be within the scope of the invention.

The Examples presented in Sections 17, 18, 26 and 27 below, demonstrate that viral sequences identified via the motif searches described herein identify substantial antiviral characteristics. Specifically, the Example presented in Section 17 describes peptides with anti-respiratory syncytial virus activity, the Example presented in Section 18 describes peptides with anti-parainfluenza virus activity, the Example presented in Section 26 describes peptides with anti-measles virus activity and the Example presented in Section 27 describes peptides with anti-simian immunodeficiency virus activity.

The DP107 and DP178 analogs may, further, contain any of the additional groups described for DP178, above, in Section 5.1. For example, these peptides

may include any of the additional amino-terminal groups as described above for "X" groups, and may also include any of the carboxy-terminal groups as described, above, for "Z" groups.

Additionally, truncations of the identified DP107 and DP178 peptides are among the peptides of the invention. Further, such DP107 and DP178 analogs and DP107/DP178 analog truncations may exhibit one or more amino acid substitutions, insertion, and/or deletions. The DP178 analog amino acid substitutions, insertions and deletions, are as described, above, for DP178-like peptides in Section 5.1. The DP-107 analog amino acid substitutions, insertions and deletions are also as described, above, for DP107-like peptides in Section 5.2.

Tables XV through XXII, below, present representative examples of such DP107/DP178 truncations. Specifically, Table XV presents Respiratory Syncytial Virus F1 region DP107 analog carboxy truncations, Table XVI presents Respiratory Syncytial Virus F1 region DP107 analog amino truncations, Table XVII presents Respiratory Syncytial Virus F1 region DP178 analog carboxy truncations, Table XVIII presents Respiratory Syncytial Virus F1 region DP178 analog amino truncations, Table XIX presents Human Parainfluenza Virus 3 F1 region DP178 analog carboxy truncations, Table XX presents Human Parainfluenza Virus 3 F1 region DP178 analog amino truncations, Table XXI presents Human Parainfluenza Virus 3 F1 region DP107 analog carboxy truncations and Table XXII presents Human Parainfluenza Virus 3 F1 region DP107 analog amino truncations. Further, Table XXIII, below, presents DP107/DP178 analogs and analog truncations which exhibit substantial antiviral activity. These antiviral peptides are grouped according to the specific virus which they inhibit,

including respiratory syncytial virus, human parainfluenza virus 3, simian immunodeficiency virus and measles virus.

TABLE V

ALLMOTIS SEARCH RESULTS SUMMARY

FOR ALL VIRAL (NON-BACTERIOPHAGE) PROTEINS

PCGENE	ALLMOTIS	All Viruses (no bacteriophages)								
ENTRY NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
P170K_TRVPS	POTENTIAL 170 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN PSG)	113-153							
P194K_TRVSY	POTENTIAL 194 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN SYM)	144-178	214-248	391-446	644-678	1045-1079	1135-1176	1135-1176	1635-1676
P55KD_HSV6U	55 8 KD PROTEIN	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	228-262							
PAANT_HDVAM	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE AMERICAN)	3-48	100-144						
PAANT_HDVD3	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE D380)	7-48	100-144						
PAANT_HDVIT	DELTA ANTIGEN (ALPHA ANTIGEN)	HEPATITIS DELTA VIRUS (ISOLATE ITALIAN)	3-48	100-144						
PAANT_HDVL1	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE LEBANON-1)	3-48							
PAANT_HDVM1	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE JAPANESE M-1)	3-48	100-144						
PAANT_HDVM2	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE JAPANESE M-2)	3-48	100-144						
PAANT_HDVNA	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE NAURU)	3-48	100-144						
PAANT_HDVS1	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE JAPANESE S-1)	1-49	100-144						
PAANT_HDVS2	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE JAPANESE S-2)	1-49	100-144						
PAANT_HDVWO	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE WOODCHUCK)	3-48	100-144						
PAT3H_FOWPM	ANTITHROMBIN-III HOMOLOG	FOWLPOX VIRUS (ISOLATE HP-438)	71-110							
PATII_VACCV	94 KD A-TYPE INCLUSION PROTEIN	VACCINIA VIRUS (STRAIN WR)	14-57	420-564	570-625					
PATII_VARV	81 KD A-TYPE INCLUSION PROTEIN	VARIOLA VIRUS	425-525	531-565	571-628					
PAT12_HSV11	ALPHA TRANS-INDUCING FACTOR	HERPES SIMPLEX VIRUS (TYPE 1)	304-345							
PAT13_HSV1F	ALPHA TRANS-INDUCING FACTOR	HERPES SIMPLEX VIRUS (TYPE 1)	102-139	304-345						
PAT13_HSVEB	ALPHA TRANS-INDUCING FACTOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	101-147	268-331						
PATI3_VACCC	PUTATIVE A-TYPE INCLUSION PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	79-124	219-263						
PATI2_VACCV	PUTATIVE A-TYPE INCLUSION PROTEIN	VACCINIA VIRUS	79-124							
PATI2_VZVD	ALPHA TRANS-INDUCING FACTOR	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	298-361	395-429						
PATI3_VACCV	PUTATIVE A-TYPE INCLUSION PROTEIN	VACCINIA VIRUS	51-95							
PATIN_HSV23	ALPHA TRANS-INDUCING PROTEIN (VMW65)	HERPES SIMPLEX VIRUS (TYPE 2)	178-219	324-381						
PATIN_HSV2H	ALPHA TRANS-INDUCING PROTEIN (VMW65)	HERPES SIMPLEX VIRUS (TYPE 2)	177-222	324-381						
PATIN_HSVBP	ALPHA TRANS-INDUCING PROTEIN	BOVINE HERPESVIRUS TYPE 1	195-236							
PATIN_HSVEB	ALPHA TRANS-INDUCING PROTEIN	EQUINE HERPESVIRUS TYPE 1	241-289							
PATIN_VZVD	ALPHA TRANS-INDUCING PROTEIN (	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	206-252							
PATI_COWPX	A-TYPE INCLUSION PROTEIN	COWPOX VIRUS	14-57	426-526	535-566	572-629	803-989	1106-1150		
PBDL2_EBV	PROTEIN BDLF2	EPSTEIN-BARR VIRUS (STRAIN B95-8)	90-131							
PBRL1_EBV	TRANSCRIPTION ACTIVATOR BRLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	150-187							
PCOA1_POVBA	COAT PROTEIN VP1	POLYOMAVIRUS BK	107-141							
PCOA1_POVBK	COAT PROTEIN VP1	POLYOMAVIRUS BK	107-141							
PCOA1_POVHA	COAT PROTEIN VP1	HAMSTER POLYOMAVIRUS	159-195							
PCOA1_SV40	COAT PROTEIN VP1	SIMIAN VIRUS 40	109-143							
PCOA2_BFDV	COAT PROTEIN VP2	BUDGERIGAR FLEDGLING DISEASE VIRUS	141-213							
PCOA2_POVBA	COAT PROTEIN VP2	POLYOMAVIRUS BK (STRAIN AS)	14-64	317-351						
PCOA2_POVBK	COAT PROTEIN VP2	POLYOMAVIRUS BK	14-64	317-351						
PCOA2_POVBO	COAT PROTEIN VP2	BOVINE POLYOMAVIRUS	35-76	153-216						
PCOA2_POVHA	COAT PROTEIN VP2	HAMSTER POLYOMAVIRUS	7-48	174-208						
PCOA2_POVJC	COAT PROTEIN VP2	POLYOMAVIRUS JC	14-64	233-267						
PCOA2_POVLY	COAT PROTEIN VP2	LYMPHOTROPIC POLYOMAVIRUS	14-78	156-206						
PCOA2_POVM3	COAT PROTEIN VP2	MOUSE POLYOMAVIRUS (STRAIN 3)	5-72	137-185						
PCOA2_POVMA	COAT PROTEIN VP2	MOUSE POLYOMAVIRUS	5-72	137-185						
PCOA2_POVMC	COAT PROTEIN VP2	MOUSE POLYOMAVIRUS	5-72	137-185						
PCOA2_POVMK	COAT PROTEIN VP2	MOUSE POLYOMAVIRUS	15-56	177-211						
PCOA3_SV40	COAT PROTEIN VP2	SIMIAN VIRUS 40	14-62	228-262	318-352					
PCOAT_ABMVW	COAT PROTEIN	ABUTILON MOSAIC VIRUS (ISOLATE WEST INDIA	180-214							
PCOAT_ACLSV	COAT PROTEIN	APPLE CHLOROTIC LEAF SPOT VIRUS	154-188							
PCOAT_AEDEV	COAT PROTEIN VP1	AEDES DENSONUCLEOSIS VIRUS	243-284							
PCOAT_AMCV	COAT PROTEIN	ARTICHOKE MOTTLED CRINKLE VIRUS	36-70	100-134						
PCOAT_BLRV	COAT PROTEIN	BEAN LEAFROLL VIRUS	89-123							

FCGENE	ALLMOTIF	All Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
FILENAME	PROTEIN	VIRUS								
PCOAT_BMV	COAT PROTEIN	BROME MOSAIC VIRUS	36-93							
PCOAT_BYDV1	COAT PROTEIN	BARLEY YELLOW DWARF VIRUS	163-197							
PCOAT_BYDVM	COAT PROTEIN	BARLEY YELLOW DWARF VIRUS	163-197							
PCOAT_BYDVP	COAT PROTEIN	BARLEY YELLOW DWARF VIRUS	164-198							
PCOAT_BYDVR	COAT PROTEIN	BARLEY YELLOW DWARF VIRUS	164-198							
PCOAT_CAMVC	COAT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN	56-90	186-223						
PCOAT_CAMVD	COAT PROTEIN	CAULIFLOWER MOSAIC VIRUS	53-91	187-224						
PCOAT_CAMVB	COAT PROTEIN	CAULIFLOWER MOSAIC VIRUS	56-90	186-223						
PCOAT_CAMVN	COAT PROTEIN	CAULIFLOWER MOSAIC VIRUS	56-90	185-222						
PCOAT_CAMVS	COAT PROTEIN	CAULIFLOWER MOSAIC VIRUS	53-91	187-224						
PCOAT_CAMV	COAT PROTEIN	CARNATION MOTTLE VIRUS	11-51							
PCOAT_COMV	COAT PROTEIN	COWPEA CHLOROTIC MOTTLE VIRUS	141-178							
PCOAT_CERV	PROBABLE COAT PROTEIN	CARNATION ETCHED RING VIRUS	192-228							
PCOAT_CRYP1	MAJOR CAPSID PROTEIN	PARAMECIUM BURSARIA CHLORELLA VIRUS 1	393-435							
PCOAT_CLVR	COAT PROTEIN	CASSAVA LATENT VIRUS	197-231							
PCOAT_CLVN	COAT PROTEIN	CASSAVA LATENT VIRUS	197-231							
PCOAT_CMVIC	COAT PROTEIN	CUCUMBER MOSAIC VIRUS	153-183							
PCOAT_CMVI	COAT PROTEIN	CUCUMBER MOSAIC VIRUS	153-187							
PCOAT_CMVS	COAT PROTEIN	CUCUMBER MOSAIC VIRUS	153-187							
PCOAT_CMVQ	COAT PROTEIN	CUCUMBER MOSAIC VIRUS	153-187							
PCOAT_CMVWL	COAT PROTEIN	CUCUMBER MOSAIC VIRUS	153-187							
PCOAT_CMVY	COAT PROTEIN	CUCUMBER MOSAIC VIRUS	153-187							
PCOAT_CNV	COAT PROTEIN	CUCUMBER NECROSIS VIRUS	228-265							
PCOAT_CSMV	COAT PROTEIN	CHLORIS STRIATE MOSAIC VIRUS	184-218							
PCOAT_CTV14	COAT PROTEIN	CITRUS TRISTEZA VIRUS	39-120							
PCOAT_CYMV	COAT PROTEIN	CLOVER YELLOW MOSAIC VIRUS	162-204							
PCOAT_EPMV	COAT PROTEIN	EGGPLANT MOSAIC VIRUS	40-74							
PCOAT_FCVC6	COAT PROTEIN	FELINE CALICIVIRUS	422-466	546-600						
PCOAT_FCV14	COAT PROTEIN	FELINE CALICIVIRUS	502-550	546-600						
PCOAT_FCV19	COAT PROTEIN	FELINE CALICIVIRUS	519-553	569-603						
PCOAT_FMVD	PROBABLE COAT PROTEIN	FIGWORT MOSAIC VIRUS	144-199	206-247	448-483					
PCOAT_FOMV	COAT PROTEIN	FOXTAIL MOSAIC VIRUS	148-220							
PCOAT_RVI	CAPSID PROTEIN	TIPULA IRIDESCENT VIRUS	90-124							
PCOAT_RVI2	CAPSID PROTEIN	SINAI FLY IRIDESCENT VIRUS	90-124							
PCOAT_RVI6	CAPSID PROTEIN	CHILO IRIDESCENT VIRUS	31-85							
PCOAT_LSV	COAT PROTEIN	LILY SYMPTOMLESS VIRUS	32-70	235-289						
PCOAT_MSTV	COAT PROTEIN	MAIZE STRIPE VIRUS	7-36	84-121						
PCOAT_MSVK	COAT PROTEIN	MAIZE STREAK VIRUS	187-221							
PCOAT_MSVN	COAT PROTEIN	MAIZE STREAK VIRUS	187-221							
PCOAT_MSVS	COAT PROTEIN	MAIZE STREAK VIRUS	187-221							
PCOAT_ORSV	COAT PROTEIN	ODONTOGLOSSUM RINGSPOT VIRUS	103-139							
PCOAT_PAVBD	COAT PROTEIN YP3	BOVINE PARVOVIRUS	380-414	444-480						
PCOAT_PAVCI	COAT PROTEIN YP1	CANINE PARVOVIRUS	497-531							
PCOAT_PEBV	COAT PROTEIN	PEA EARLY BROWNING VIRUS	73-114							
PCOAT_POPMV	COAT PROTEIN	POPLAR MOSAIC VIRUS	36-81							
PCOAT_PPMV8	COAT PROTEIN	PEPPER MILD MOTTLE VIRUS	104-138							
PCOAT_PVS2	COAT PROTEIN	POTATO VIRUS	38-72	231-292						
PCOAT_PYMVV	COAT PROTEIN	POTATO YELLOW MOSAIC VIRUS	190-224							
PCOAT_RBDV	COAT PROTEIN	RASPBERRY BUSHY DWARF VIRUS	10-44	140-199						
PCOAT_RCNMV	COAT PROTEIN	RED CLOVER NECROTIC MOSAIC VIRUS	271-306							
PCOAT_RSV	COAT PROTEIN	RICE STRIPE VIRUS	34-68	61-120	259-309					
PCOAT_SLCV	COAT PROTEIN	SQUASH LEAF CURL VIRUS	190-224							

PCGENE	ALLMOTIS	All Viruses (no bacteriophages)								
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PCOAT_SMWLM	COAT PROTEIN	SATELLITE MAIZE WHITE LINE MOSAIC VIRUS	66-100							
PCOAT_SOCMV	COAT PROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	128-166							
PCOAT_STNV1	COAT PROTEIN	SATELLITE TOBACCO NECROSIS VIRUS 1	2-50							
PCOAT_STNV2	COAT PROTEIN	SATELLITE TOBACCO NECROSIS VIRUS 2	38-72							
PCOAT_TAMV	GENOME POLYPROTEIN	TAMARILLO MOSAIC VIRUS	7-55							
PCOAT_TAV	COAT PROTEIN	TOMATO ASPERMY VIRUS	14-48							
PCOAT_TBSVB	COAT PROTEIN	TOMATO BUSHY STUNT VIRUS	1-37	43-77						
PCOAT_TBSVC	COAT PROTEIN	TOMATO BUSHY STUNT VIRUS	44-78	100-134						
PCOAT_TCV	COAT PROTEIN	TURNIP CRINKLE VIRUS	12-46							
PCOAT_TGMV	COAT PROTEIN	TOMATO GOLDEN MOSAIC VIRUS	186-220							
PCOAT_TMGMV	COAT PROTEIN	TOBACCO MILD GREEN MOSAIC VIRUS	103-137							
PCOAT_TMV	COAT PROTEIN	TOBACCO MOSAIC VIRUS	103-137							
PCOAT_TMV06	COAT PROTEIN	TOBACCO MOSAIC VIRUS	103-137							
PCOAT_TMVCO	COAT PROTEIN	TOBACCO MOSAIC VIRUS	76-138							
PCOAT_TMVDA	COAT PROTEIN	TOBACCO MOSAIC VIRUS	103-137							
PCOAT_TMVER	COAT PROTEIN	TOBACCO MOSAIC VIRUS	103-137							
PCOAT_TMVHR	COAT PROTEIN	TOBACCO MOSAIC VIRUS	103-137							
PCOAT_TMVO	COAT PROTEIN	TOBACCO MOSAIC VIRUS	103-137							
PCOAT_TMVOM	COAT PROTEIN	TOBACCO MOSAIC VIRUS	103-137							
PCOAT_TMVTO	COAT PROTEIN	TOBACCO MOSAIC VIRUS	103-137							
PCOAT_TRVCA	COAT PROTEIN	TOBACCO RATTLE VIRUS	71-109							
PCOAT_TRVTC	COAT PROTEIN	TOBACCO RATTLE VIRUS	69-103							
PCOAT_TYDVA	COAT PROTEIN	TOBACCO YELLOW DWARF VIRUS	2-36							
PCOAT_TYMV	COAT PROTEIN	TURNIP YELLOW MOSAIC VIRUS	41-75							
PCOAT_TYMVA	COAT PROTEIN	TURNIP YELLOW MOSAIC VIRUS	41-75							
PCOAT_WCMVO	COAT PROTEIN	WHITE CLOVER MOSAIC VIRUS	163-197							
PCORA_HPBGS	CORE ANTIGEN	GROUND SQUIRREL HEPATITIS VIRUS	94-135							
PCORA_HPBV9	CORE ANTIGEN	HEPATITIS B VIRUS	111-149							
PCORA_WHV1	CORE ANTIGEN	WOODCHUCK HEPATITIS VIRUS 1	62-106							
PCORA_WHV8	CORE ANTIGEN	WOODCHUCK HEPATITIS VIRUS 8	62-106							
PD250_ASFB7	PROTEIN D250R	AFRICAN SWINE FEVER VIRUS	198-232							
PDNB2_ADE02	EARLY E2A DNA-BINDING PROTEIN	HUMAN ADENOVIRUS TYPE 2	291-336							
PDNB2_ADE05	EARLY E2A DNA-BINDING PROTEIN	HUMAN ADENOVIRUS TYPE 5	291-336							
PDNBI_EBV	MAJOR DNA-BINDING PROTEIN	EPSTEIN-BARR VIRUS	233-252	718-752	974-1009	1027-1068				
PDNBI_HCMVA	MAJOR DNA-BINDING PROTEIN	HUMAN CYTOMEGALOVIRUS	338-372	1013-1070						
PDNBI_HSV11	MAJOR DNA-BINDING PROTEIN	HERPES SIMPLEX VIRUS	557-595	599-640	769-803	1079-1140				
PDNBI_HSV1F	MAJOR DNA-BINDING PROTEIN	HERPES SIMPLEX VIRUS	557-595	599-640	769-803	1079-1140				
PDNBI_HSV1K	MAJOR DNA-BINDING PROTEIN	HERPES SIMPLEX VIRUS	557-595	599-640	769-803	1079-1140				
PDNBI_HSVB2	MAJOR DNA-BINDING PROTEIN	BOVINE HERPESVIRUS TYPE 2	552-591	599-633	1048-1131					
PDNBI_HSVE1	MAJOR DNA-BINDING PROTEIN	EQUINE HERPESVIRUS TYPE 1	273-314							
PDNBI_HSVEB	MAJOR DNA-BINDING PROTEIN	EQUINE HERPESVIRUS TYPE 1	617-658	1107-1148						
PDNBI_HSVSA	MAJOR DNA-BINDING PROTEIN	HERPESVIRUS SAIMIRI	222-259	330-367	506-537	873-907				
PDNBI_MCMVS	MAJOR DNA-BINDING PROTEIN	MURINE CYTOMEGALOVIRUS	584-618	987-1125						
PDNBI_SCMVC	MAJOR DNA-BINDING PROTEIN	SIMIAN CYTOMEGALOVIRUS	525-562							
PDNBI_VZVD	MAJOR DNA-BINDING PROTEIN	VARICELLA-ZOSTER VIRUS	613-650	1043-1077						
PDNLI_ASFM2	DNA LIGASE	AFRICAN SWINE FEVER VIRUS	72-106							
PDNLI_VACCC	DNA LIGASE	VACCINIA VIRUS	395-436							
PDNLI_VACCV	DNA LIGASE	VACCINIA VIRUS	395-436							
PDNLI_VARV	DNA LIGASE	VARIOLA VIRUS	395-436							
PDPOL_ADE02	DNA POLYMERASE	HUMAN ADENOVIRUS TYPE 2	667-743							
PDPOL_ADE05	DNA POLYMERASE	HUMAN ADENOVIRUS TYPE 5	667-743							
PDPOL_ADE07	DNA POLYMERASE	HUMAN ADENOVIRUS TYPE 7	733-809							

PCGENE	ALLMOTIF	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
DNAFRAME	PROTEIN	VIRUS								
PDPOL_ADE12	DNA POLYMERASE	HUMAN ADENOVIRUS TYPE 12	665-741							
PDPOL_CHDV	DNA POLYMERASE	CHORISTONEURA BIENNIS ENTOMOPOXVIRUS	23-64	202-240						
PDPOL_CHVN2	DNA POLYMERASE	CHLORELLA VIRUS NY-2A	247-284							
PDPOL_CHV1	DNA POLYMERASE	PARAMECIUM BURSARIA CHLORELLA VIRUS 1	247-284							
PDPOL_FOWPV	DNA POLYMERASE	FOWLPOX VIRUS	17-51	80-114	377-412					
PDPOL_HCMVA	DNA POLYMERASE	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	733-787	1033-1074						
PDPOL_HPBDC	DNA POLYMERASE	DUCK HEPATITIS B VIRUS	5-39							
PDPOL_HPBDC	DNA POLYMERASE	DUCK HEPATITIS B VIRUS (STRAIN CHINA)	5-39							
PDPOL_HPBDW	DNA POLYMERASE	DUCK HEPATITIS B VIRUS (WHITE SHANGHAI DUCK ISOLATE 32)	5-39	297-338						
PDPOL_HPBGS	DNA POLYMERASE	GROUND SQUIRREL HEPATITIS VIRUS	291-335							
PDPOL_HPBHE	DNA POLYMERASE	HERON HEPATITIS B VIRUS	5-39	234-265	537-595					
PDPOL_HPBVY	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE AYW)	261-315							
PDPOL_HPBV2	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE ADYW)	261-315							
PDPOL_HSV11	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	511-559							
PDPOL_HSV1A	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN ANGELOTTI	511-559							
PDPOL_HSV1K	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	511-559							
PDPOL_HSV1S	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN SC16)	511-559							
PDPOL_HSV21	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN 186)	512-560							
PDPOL_HSV2B	DNA POLYMERASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	494-538							
PDPOL_HSV11	DNA POLYMERASE	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS)	33-67	328-366	401-435	706-749	808-858			
PDPOL_MPVAC	DNA POLYMERASE	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	595-646							
PDPOL_VACCC	DNA POLYMERASE	VACCINIA VIRUS (STRAIN COPENHAGEN)	621-683	770-818	828-862					
PDPOL_VACCV	DNA POLYMERASE	VACCINIA VIRUS (STRAIN WR)	621-683	770-818	828-862					
PDPOL_VARV	DNA POLYMERASE	VARIOLA VIRUS	626-683	769-817	827-861					
PDPOL_VZVD	DNA POLYMERASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	477-532							
PDPOL_WHV1	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 1	285-326							
PDPOL_WHV19	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 39	290-331							
PDPOL_WHV7	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 7	290-331							
PDPOL_WHV8	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 8	289-330							
PDPOL_WHV81	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 8 (INFECTIOUS CLONE)	290-331							
PDPOM_HPBVY	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE AYW)	201-235							
PDUT_HSV1A	DEOXYURIDINE 5'-TRIPHOSPHATE NUCLEOTIDOHY	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P	133-169							
PDUT_HSV1A	DEOXYURIDINE 5'-TRIPHOSPHATE NUCLEOTIDOHY	HERPESVIRUS SAIMIRI (STRAIN 11)	178-213							
PE1A_ADE41	EARLY E1A 37 KD PROTEIN	HUMAN ADENOVIRUS TYPE 41	107-141							
PE1BL_ADE40	E1B PROTEIN, LARGE T-ANTIGEN	HUMAN ADENOVIRUS TYPE 40	102-146							
PE1BS_ADE02	E1B PROTEIN, SMALL T-ANTIGEN	HUMAN ADENOVIRUS TYPE 2	101-137							
PE1BS_ADE05	E1B PROTEIN, SMALL T-ANTIGEN	HUMAN ADENOVIRUS TYPE 5	101-137							
PE1BS_ADE12	E1B PROTEIN, SMALL T-ANTIGEN	HUMAN ADENOVIRUS TYPE 12	96-131							
PE1BS_ADE40	E1B PROTEIN, SMALL T-ANTIGEN	HUMAN ADENOVIRUS TYPE 40	100-134							
PE1BS_ADE41	E1B PROTEIN, SMALL T-ANTIGEN	HUMAN ADENOVIRUS TYPE 41	100-134							
PE1BS_ADE41	E1B PROTEIN, SMALL T-ANTIGEN	MOUSE ADENOVIRUS TYPE 1	114-177							
PE1I4_ADE02	EARLY E1B 14 KD PROTEIN	HUMAN ADENOVIRUS TYPE 2	2-39							
PE1I4_ADE05	EARLY E1 15.3 KD PROTEIN	HUMAN ADENOVIRUS TYPE 5	2-49							
PE1I4_ADE05	EARLY E1 15.3 KD PROTEIN	HUMAN ADENOVIRUS TYPE 5	2-39							
PE1I4_ADE07	EARLY E1 15.3 KD PROTEIN	HUMAN ADENOVIRUS TYPE 7	2-48							
PE1I9_ADE35	EARLY E1 20.3 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 35	70-107							
PE1I1_ADE35	EARLY E1 20.4 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 35	123-160							
PE4II_ADE02	PROBABLE EARLY E4 11 KD PROTEIN	HUMAN ADENOVIRUS TYPE 2	10-44							
PE4II_ADE05	PROBABLE EARLY E4 11 KD PROTEIN	HUMAN ADENOVIRUS TYPE 5	10-44							
PEA1_EBV	EARLY ANTIGEN PROTEIN R	EPSTEIN-BARR VIRUS (STRAIN B95-8)	123-157							
PEBN_EBV	EBNA-1 NUCLEAR PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	407-521							
PETF1_VAAV	EARLY TRANSCRIPTION FACTOR 70 KD SUBUNIT	VARIOLA VIRUS	23-71	287-341						

PCGENE	ALLMOTIF	All Viruses (no bacteriophages)								
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PENV1_FRSFV	ENV POLYPROTEIN PRECURSOR	FRIEND SPLEEN FOCUS-FORMING VIRUS	341-375							
PENV2_FRSFV	ENV POLYPROTEIN PRECURSOR	FRIEND SPLEEN FOCUS-FORMING VIRUS	341-378							
PENV_AVIRE	ENV POLYPROTEIN	AVIAN RETICULOENDOTHELIOSIS VIRUS	420-472							
PENV_AVISN	ENV POLYPROTEIN	AVIAN SPLEEN NECROSIS VIRUS	426-478							
PENV_BAEVM	ENV POLYPROTEIN	BABOON ENDOGENOUS VIRUS (STRAIN M7)	390-436							
PENV_BIV06	ENV POLYPROTEIN PRECURSOR	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 106)	10-44	88-122	221-255	530-610	635-691			
PENV_BIV27	ENV POLYPROTEIN PRECURSOR	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127)	10-44	88-122	159-193	250-284	559-639	664-724		
PENV_BLVAF	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AMERICAN ISOLATE FLK)	304-379							
PENV_BLVAU	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AUSTRALIAN ISOLATE)	304-379							
PENV_BLVAV	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AMERICAN ISOLATE VDM)	304-379							
PENV_BLVB2	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (BELGIUM ISOLATE LB285)	304-379							
PENV_BLVB5	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (BELGIUM ISOLATE LB59)	304-379							
PENV_BLVJ	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (JAPANESE ISOLATE BLV-1)	304-379							
PENV_CAEVC	ENV POLYPROTEIN PRECURSOR	CAPRINE ARTHRITIS ENCEPHALITIS VIRUS (STRAIN CORK)	157-196	615-720	751-785	847-895				
PENV_CAEVG	ENV POLYPROTEIN PRECURSOR	CAPRINE ARTHRITIS ENCEPHALITIS VIRUS (STRAIN G63)	154-193	611-718	749-783	845-893				
PENV_EIAV1	ENV POLYPROTEIN PRECURSOR	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE P3 2-1)	39-76	436-525	559-593	688-716				
PENV_EIAV2	ENV POLYPROTEIN PRECURSOR	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE P3 2-2)	39-76	436-525	559-593	658-692				
PENV_EIAV3	ENV POLYPROTEIN PRECURSOR	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE P3 2-3)	39-76	436-525	559-593	658-716				
PENV_EIAV5	ENV POLYPROTEIN PRECURSOR	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE P3 2-5)	38-76	437-526	560-594	659-693				
PENV_EIAV9	ENV POLYPROTEIN PRECURSOR	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE 1369)	39-76	436-525	559-593	658-716				
PENV_EIAVC	ENV POLYPROTEIN PRECURSOR	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE CL22)	39-76	436-525	559-593	658-716				
PENV_EIAVW	ENV POLYPROTEIN PRECURSOR	EQUINE INFECTIOUS ANEMIA VIRUS (STRAIN WSU5)	39-76	436-525	559-593	658-716				
PENV_EIAVY	ENV POLYPROTEIN PRECURSOR	EQUINE INFECTIOUS ANEMIA VIRUS (ISOLATE WYOMING)	39-76	436-525	559-593	658-716				
PENV_FENV1	ENV POLYPROTEIN PRECURSOR	FELINE ENDOGENOUS VIRUS ECE1	503-555	567-604						
PENV_FIVPE	ENVELOPE POLYPROTEIN PRECURSOR	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE PETALUMA)	610-690	715-756						
PENV_FIVSD	ENVELOPE POLYPROTEIN PRECURSOR	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE SAN DIEGO)	601-688	713-754						
PENV_FIVT2	ENVELOPE POLYPROTEIN PRECURSOR	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE TM2)	60-122	609-689	714-755					
PENV_FLVC6	ENV POLYPROTEIN PRECURSOR	FELINE LEUKEMIA PROVIRUS (CLONE CFE-6)	497-549	561-595						
PENV_FLVGL	ENV POLYPROTEIN PRECURSOR	FELINE LEUKEMIA VIRUS (STRAIN AGLASGOW-1)	478-530	542-576						
PENV_FLVLB	ENV POLYPROTEIN PRECURSOR	FELINE LEUKEMIA VIRUS (STRAIN LAMBDA-B1)	498-550	562-596						
PENV_FLVSA	ENV POLYPROTEIN PRECURSOR	FELINE LEUKEMIA VIRUS (STRAIN SARMA)	475-527	539-573						
PENV_FOAMV	ENV POLYPROTEIN	HUMAN SPUMARETROVIRUS	1-41	154-205	321-355	563-693	866-903			
PENV_FSVGA	ENV POLYPROTEIN PRECURSOR	FELINE SARCOMA VIRUS (STRAIN GARDNER-ARNSTEIN)	498-550	562-596						
PENV_FSVGB	ENV POLYPROTEIN PRECURSOR	FELINE SARCOMA VIRUS (STRAIN GA)	478-530	542-576						
PENV_FSVSM	ENV POLYPROTEIN PRECURSOR	FELINE SARCOMA VIRUS (STRAIN SM)	481-524	545-579						
PENV_FSVST	ENV POLYPROTEIN PRECURSOR	FELINE SARCOMA VIRUS (STRAIN SNYDER-THEILEN)	498-532							
PENV_GALV	ENV POLYPROTEIN PRECURSOR	GIBBON APE LEUKEMIA VIRUS	523-575	587-621						
PENV_HTL1A	ENV POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (STRAIN ATK)	321-383							
PENV_HTL1C	ENV POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (CARIBBEAN ISOLATE)	316-383							
PENV_HTL1M	ENV POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (ISOLATE MT-2)	321-383							
PENV_HTLV2	ENV POLYPROTEIN PRECURSOR	HUMAN T-CELL LEUKEMIA VIRUS TYPE II	317-377							
PENV_HV1A2	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (ARV2/SF2 ISOLATE)	497-593	612-711	766-843					
PENV_HV1B1	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BH10 ISOLATE)	505-594	610-712	767-843					
PENV_HV1B8	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BH8 ISOLATE)	500-589	605-707	762-838					
PENV_HV1BN	ENVELOPE POLYPROTEIN GP160 PRECURSOR (CONT	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BRAIN ISOLATE)	331-365	501-590	609-708	763-831				
PENV_HV1BR	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BRU ISOLATE)	510-599	615-717	772-841					
PENV_HV1C4	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (CDC-451 ISOLATE)	342-376	510-606	626-724	779-855				
PENV_HV1EL	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (ELI ISOLATE)	255-296	502-591	607-709	761-829				
PENV_HV1H2	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (HXB2 ISOLATE)	505-594	610-712	767-836					
PENV_HV1H3	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (HXB3 ISOLATE)	505-594	610-712	767-843					
PENV_HV1J5	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (JH3 ISOLATE)	343-377	517-605	622-723	778-843				
PENV_HV1JR	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (JRCSF ISOLATE)	329-363	497-586	603-704	759-835				

PCGENE	ALLMOTIF	All Viruses (no bacteriophages)								
TILE NAME	PROTEIN	VIRUS	AREA1	AREA1	AREA1	AREA1	AREA1	AREA2	AREA2	AREA2
PENV_HV1KB	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (STRAIN KB-1-GP33)	88-132	338-372	311-345	555-589	618-652	681-715	772-806	
PENV_HV1MA	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MAL ISOLATE)	219-253	307-596	617-714	778-825				
PENV_HV1AF	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ARA ISOLATE)	901-591	632-710	765-841					
PENV_HV1HX	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HAN ISOLATE)	338-378	506-595	617-713	774-841				
PENV_HV1NS	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NEW YORK-5 ISOL	326-360							
PENV_HV1ND	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)	249-290	495-584	601-702	757-823				
PENV_HV1OY	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (OYI ISOLATE)	338-378	497-593	610-711	766-842				
PENV_HV1PV	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV2 ISOLATE)	505-594	610-712	767-843					
PENV_HV1RH	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (RF/HAT ISOLATE)	244-278	507-603	619-721	778-832				
PENV_HV1I1	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SF162 ISOLATE)	496-583	602-702	715-810					
PENV_HV1J3	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SF3 ISOLATE)	333-366	494-590	607-708	763-837				
PENV_HV1SC	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SC ISOLATE)	331-365	498-594	611-712	767-836				
PENV_HV1W1	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (WAU1 ISOLATE)	331-365	498-594	611-712	767-836				
PENV_HV1W2	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (WAU2 ISOLATE)	327-361	489-584	602-703	758-827				
PENV_HV1Z3	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z2/CDC-Z34 ISOLA	335-396	503-591	616-709	764-837				
PENV_HV1Z1	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE 1 ISOLATE)	251-293							
PENV_HV1Z6	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE 6 ISOLATE)	236-297	504-591	609-711	766-840				
PENV_HV1Z8	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z-34 ISOLATE)	266-307	512-601	617-675	682-719	776-831			
PENV_HV1ZH	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE HZ321 ISOL	532-594	612-671	675-712	777-839				
PENV_HV2BE	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE BEN)	447-481	510-593	617-680					
PENV_HV2CA	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE CAM2)	513-597	619-709						
PENV_HV2D1	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D194)	501-586	601-698						
PENV_HV2G1	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE GHANA-1	439-471	502-587	609-699					
PENV_HV2N2	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NIH-Z)	486-587	609-699						
PENV_HV2RO	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD)	511-596	618-704						
PENV_HV2S3	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST/24.ICP	442-476	505-590	612-702					
PENV_HV2SB	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE SBL1SY)	326-388	614-700						
PENV_HV2ST	ENVELOPE POLYPROTEIN GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST)	442-476	505-590	612-702					
PENV_BMAE	ENV POLYPROTEIN PRECURSOR	MOUSE INTRACISTERNAL A-PARTICLE	307-422	465-527						
PENV_JSRV	ENV POLYPROTEIN PRECURSOR	SHEEP PULMONARY ADENOMATOSIS VIRUS	401-455	571-601						
PENV_MCF7	ENV POLYPROTEIN PRECURSOR	MINK CELL FOCUS-FORMING MURINE LEUKEMIA VIRUS	473-523	537-571						
PENV_MCF13	ENV POLYPROTEIN PRECURSOR (COAT POLYPROTE	MINK CELL FOCUS-FORMING MURINE LEUKEMIA VIRUS (ISOLA	474-526	538-572						
PENV_MLVAV	ENV POLYPROTEIN PRECURSOR	ABV MURINE LEUKEMIA VIRUS	503-535	567-601						
PENV_MLVCB	ENV POLYPROTEIN PRECURSOR	CAS-BR-E MURINE LEUKEMIA VIRUS	498-550	562-596						
PENV_MLVF5	ENV POLYPROTEIN PRECURSOR	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE 57)	526-564	576-610						
PENV_MLVFF	ENV POLYPROTEIN PRECURSOR	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE FB29)	526-564	576-610						
PENV_MLVFP	ENV POLYPROTEIN PRECURSOR	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE PVC-211)	526-564	576-610						
PENV_MLVH9	ENV POLYPROTEIN PRECURSOR	HOKUTU MURINE LEUKEMIA VIRUS	504-551	563-597						
PENV_MLVKI	ENV POLYPROTEIN	KIRSTEN MURINE LEUKEMIA VIRUS	40-92	104-138						
PENV_MLVMO	ENV POLYPROTEIN PRECURSOR	MOLONEY MURINE LEUKEMIA VIRUS	502-534	566-600						
PENV_MLVRD	ENV POLYPROTEIN PRECURSOR	RADIATION MURINE LEUKEMIA VIRUS	497-549	561-595						
PENV_MLVRK	ENV POLYPROTEIN PRECURSOR	RADIATION MURINE LEUKEMIA VIRUS (STRAIN KAPLAN)	497-549	561-595						
PENV_MMTVB	ENV POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN BR6)	477-539	536-612						
PENV_MMTVG	ENV POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN GR)	477-539	536-612						
PENV_MPMV	ENV POLYPROTEIN	SQUIRREL MONKEY RETROVIRUS	401-474							
PENV_MSVTB	ENV POLYPROTEIN	FBJ MURINE OSTEOSARCOMA VIRUS	43-95	107-141						
PENV_OMVV3	ENV POLYPROTEIN PRECURSOR	OVINE LENTIVIRUS (STRAIN SA-OMVV)	122-64	185-223	664-746	780-816				
PENV_RMCFV	ENV POLYPROTEIN PRECURSOR	RAUSCHER MINK CELL FOCUS-INDUCING VIRUS	484-528	540-574						
PENV_RSTFV	ENV POLYPROTEIN PRECURSOR	RAUSCHER SPLEEN FOCUS-FORMING VIRUS	343-376							
PENV_SFV1	ENV POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 1)	1-41	101-140	134-205	321-355	561-651	618-693	864-904	
PENV_SFV3L	ENV POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 3 / STRAIN LK3)	5-46	158-209	319-357	580-706	765-901			
PENV_SIVAI	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (AGM155 ISOLATE)	266-310	351-421	643-693					

PCGENE	ALLMOTIS	All Viruses (no bacteriophages)								
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PENV_SIVAG	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (AGM3 ISOLATE)	556-628	651-699	808-852					
PENV_SIVAI	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM1/CLONE GR	257-291	336-370	535-607	627-684	792-840			
PENV_SIVAT	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	264-298	549-621	644-692	796-833				
PENV_SIVCZ	ENVELOPE POLYPROTEIN GP160 PRECURSOR	CHIMPANZEE IMMUNODEFICIENCY VIRUS (SIV(CPZ))	253-291	330-365	512-584	669-703	803-837			
PENV_SIVGB	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE GB1)	566-634	677-725						
PENV_SIVM1	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (MM142-83 ISOLATE)	114-151	465-496	528-613	635-725	809-844			
PENV_SIVM2	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (MM251 ISOLATE)	71-109	161-219	245-286					
PENV_SIVMK	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (MAW ISOLATE)	464-505	549-612	638-724					
PENV_SIVML	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (K78 ISOLATE)	464-505	540-612	638-724					
PENV_SIVS4	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (F236/SM04 ISOLATE)	466-509	537-616	636-726	812-853				
PENV_SIVSP	ENVELOPE POLYPROTEIN GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (PBJ/BC13 ISOLATE)	470-513	521-620	642-732	811-848				
PENV_SMRVH	ENV POLYPROTEIN PRECURSOR	SQUIRREL MONKEY RETROVIRUS (SMRV-H)	400-466							
PENV_SRVI	ENV POLYPROTEIN	SIMIAN RETROVIRUS SRV-1	409-475							
PENV_VILV	ENV POLYPROTEIN PRECURSOR	VISNA LENTIVIRUS (STRAIN 1514)	21-62	184-222	637-740	773-809				
PENV_VILV1	ENV POLYPROTEIN PRECURSOR	VISNA LENTIVIRUS (STRAIN 1514/CLONE LV1-1KS1)	21-62	184-222	643-746	780-816				
PENV_VILV2	ENV POLYPROTEIN PRECURSOR	VISNA LENTIVIRUS (STRAIN 1514/CLONE LV1-1KS2)	21-62	184-222	645-748	782-818				
PERBA_AVIER	ERBA ONCOGENE PROTEIN	AVIAN ERYTHROBLASTOSIS VIRUS (STRAIN ES4)	106-140							
PETF1_FOWP1	EARLY TRANSCRIPTION FACTOR 70 KD SUBUNIT	FOWLPOX VIRUS (STRAIN FP-1)	190-224	353-387						
PETF1_SFVKA	EARLY TRANSCRIPTION FACTOR 70 KD SUBUNIT	SHOPE FIBROMA VIRUS (STRAIN KASZA)	37-71	267-340	550-587					
PETF1_VACCC	EARLY TRANSCRIPTION FACTOR 70 KD SUBUNIT	VACCINIA VIRUS (STRAIN COPENHAGEN)	23-71	307-341						
PETF1_VACCV	EARLY TRANSCRIPTION FACTOR 70 KD SUBUNIT	VACCINIA VIRUS (STRAIN WR)	23-71	307-341						
PETF2_VACCC	EARLY TRANSCRIPTION FACTOR 82 KD SUBUNIT	VACCINIA VIRUS (STRAIN COPENHAGEN)	52-97	174-208						
PETF2_VARV	EARLY TRANSCRIPTION FACTOR 82 KD SUBUNIT	VARIOLA VIRUS	52-97	174-208						
PEXON_HCMVA	ALKALINE EXONUCLEASE	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	80-114							
PEXON_HSVEB	ALKALINE EXONUCLEASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	89-141							
PEXON_PRVNJ	ALKALINE EXONUCLEASE	PSEUDORABIES VIRUS (STRAIN NIA-3)	82-120							
PEXON_VZVD	ALKALINE EXONUCLEASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	109-157	342-383						
PFIB2_ADE40	41.4 KD FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 40	182-237							
PFIB2_ADE41	41.4 KD FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 41	182-223							
PFIBP_ADE03	FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 3	156-194							
PFIBP_ADE07	FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 7	176-210							
PFIBP_ADE40	FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 40	303-352							
PFIBP_ADE41	FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 41	320-366							
PFIBP_ADEB3	FIBER PROTEIN	BOVINE ADENOVIRUS TYPE 3	181-215	583-626						
PFOSX_MSVFR	V-FOS/FOX TRANSFORMING PROTEIN	FBR MURINE OSTEOSARCOMA VIRUS	131-169							
PFOS_AVINK	P55-V-FOS TRANSFORMING PROTEIN	AVIAN RETROVIRUS NK24	109-152							
PFOS_MSVFB	P55-V-FOS TRANSFORMING PROTEIN	FBJ MURINE OSTEOSARCOMA VIRUS	155-193							
PGAGC_AVISC	P47(GAG-CRK) PROTEIN	AVIAN SARCOMA VIRUS (STRAIN CT10)	57-101							
PGAG_AVEV1	GAG POLYPROTEIN	AVIAN ENDOGENOUS VIRUS EV-1	57-94							
PGAG_AVEV2	GAG POLYPROTEIN	AVIAN ENDOGENOUS ROUS-ASSOCIATED VIRUS-0	6-43							
PGAG_AVMC	GAG POLYPROTEIN	AVIAN MYELOCYTOMATOSIS VIRUS MC29	57-94							
PGAG_AVMD	GAG POLYPROTEIN	AVIAN MYELOCYTOMATOSIS VIRUS HB1	57-94							
PGAG_AVISU	CORE PROTEIN P19	AVIAN SARCOMA VIRUS (STRAIN UR2)	57-94							
PGAG_AVISY	GAG POLYPROTEIN	AVIAN SARCOMA VIRUS (STRAIN Y73)	57-94							
PGAG_BIV06	GAG POLYPROTEIN (P53)	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 106)	1-41							
PGAG_ELAVY	GAG POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE CL22)	61-118							
PGAG_FIVPE	GAG POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE PETALUMA)	76-110							
PGAG_FIVSD	GAG POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE SAN DIEGO)	76-110							
PGAG_FIVT2	GAG POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE TM2)	76-110							
PGAG_FLV	GAG POLYPROTEIN	FELINE LEUKEMIA VIRUS	496-537							
PGAG_FOAMV	GAG POLYPROTEIN	HUMAN SPUMARETROVIRUS	130-186	391-435	439-480	607-655				
PGAG_FSVMD	GAG POLYPROTEIN	FELINE SARCOMA VIRUS (STRAIN MCDONOUGH)	499-534							

PCGENE	ALLMOTIFS	All Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
TLE_NAME	PROTEIN	VIRUS								
PGAG_FUSV	GAG POLYPROTEIN	FUJINAMI SARCOMA VIRUS	57-94							
PGAG_GALV	GAG POLYPROTEIN	GIBBON APE LEUKEMIA VIRUS	393-466							
PGAG_HVIA2	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ARV2/SF2 ISOLATE)	87-133	294-338						
PGAG_HVIB1	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH10 ISOLATE)	90-131	292-336						
PGAG_HVIB5	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH5 ISOLATE)	90-131	292-336						
PGAG_HVIBR	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRU ISOLATE)	90-131	292-336						
PGAG_HVIC4	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (CDC-451 ISOLATE)	90-131	292-336						
PGAG_HVIEL	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE)	93-131	295-336						
PGAG_HVIH2	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HXB2 ISOLATE)	90-131	292-336						
PGAG_HVIJ3	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JH3 ISOLATE)	87-131	292-336						
PGAG_HVIJR	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JRCSF ISOLATE)	87-131	292-336						
PGAG_HVIMA	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MAL ISOLATE)	90-137							
PGAG_HVIMN	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MN ISOLATE)	93-134	295-339						
PGAG_HVIN5	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NEW YORK-5 ISOL	90-131	292-336						
PGAG_HVIND	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)	87-128	289-333						
PGAG_HVIOY	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (OYI ISOLATE)	90-131	292-336						
PGAG_HVIPV	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	90-131	292-336						
PGAG_HVIRH	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (RF/HAT ISOLATE)	90-131	292-336						
PGAG_HVIU4	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (STRAIN UGANDAN	93-137							
PGAG_HVIW3	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (WMJ2 ISOLATE)	292-336							
PGAG_HVIZ3	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z2/CDC-Z3 ISOLA	93-133	293-337						
PGAG_HVS3B	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE SBL/ISY)	292-336							
PGAG_IDTA	RETROVIRUS-RELATED GAG POLYPROTEIN	HAMSTER INTRACISTERNAL A-PARTICLE	93-127	320-337						
PGAG_IPMAE	RETROVIRUS-RELATED GAG POLYPROTEIN	MOUSE INTRACISTERNAL A-PARTICLE	67-103							
PGAG_IPMAE	RETROVIRUS-RELATED GAG POLYPROTEIN	MOUSE INTRACISTERNAL A-PARTICLE	88-133	338-372						
PGAG_JSRV	GAG POLYPROTEIN	SHEEP PULMONARY ADENOMATOSIS VIRUS	476-504							
PGAG_MMTVB	GAG POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN BR6)	83-131	154-190						
PGAG_MMTVG	GAG POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN GR)	83-131	154-190						
PGAG_MPMV	GAG POLYPROTEIN	SIMIAN MASON-PFIZER VIRUS	222-260							
PGAG_RSVP	GAG POLYPROTEIN	ROUS SARCOMA VIRUS (STRAIN PRAGUE C)	51-94							
PGAG_SCVLA	MAJOR COAT PROTEIN	SACCHAROMYCES CEREVISIAE VIRUS L-A (SCV-L-A)	102-139	400-431						
PGAG_SFV1	GAG POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 1)	130-177	378-416	387-434					
PGAG_SFV3L	GAG POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 3 / STRAIN LK1)	373-407	435-522	391-433					
PGAG_SIVAI	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM155 ISOLATE)	102-136							
PGAG_SIVAO	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM3 ISOLATE)	306-340							
PGAG_SIVAT	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM / CLONE GR	183-217	473-507						
PGAG_SIVCZ	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	302-336							
PGAG_SIVCZ	GAG POLYPROTEIN	CHIMPANZEE IMMUNODEFICIENCY VIRUS (SIVCPZ)	301-335							
PGAG_SIVGB	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE GB1)	169-204	223-267	283-317					
PGAG_SMRAV	GAG POLYPROTEIN	SIMIAN SARCOMA VIRUS	394-431							
PHELI_HSV11	PROBABLE HELICASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	173-206	369-420						
PHELI_HSV2H	PROBABLE HELICASE	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN HG52)	464-502	676-721						
PHELI_HSVSA	PROBABLE HELICASE	HERPESVIRUS SAIMIRI (STRAIN 11)	158-201	413-449	399-433					
PHELI_VZVD	PROBABLE HELICASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	445-517	703-821						
PHEMA_CVBF	HEMAGGLUTININ-ESTERASE PRECURSOR	BOVINE CORONAVIRUS (STRAIN F15)	208-242							
PHEMA_CVBLY	HEMAGGLUTININ-ESTERASE PRECURSOR	BOVINE CORONAVIRUS (STRAIN LY-138)	208-243							
PHEMA_CVBM	HEMAGGLUTININ-ESTERASE PRECURSOR	BOVINE CORONAVIRUS (STRAIN MEBUS)	208-242							
PHEMA_CVBQ	HEMAGGLUTININ-ESTERASE PRECURSOR	BOVINE CORONAVIRUS (STRAIN QUEBEC).	208-242							
PHEMA_CVHOC	HEMAGGLUTININ-ESTERASE PRECURSOR	HUMAN CORONAVIRUS (STRAIN OC43)	208-242							
PHEMA_IAAIC	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AICHI/2/68)	180-436							
PHEMA_IABAN	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/BANGKOK/1/79)	184-440							
PHEMA_IABUD	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/BUDGERIGAR/HOKKAIDO/1/77)	171-434							

FCGENE	ALLMOTIF	All Viruses (no bacteriophage)							
FILENAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7
PHEMA_IACKA	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/CHICKEN/ALABAMA/1/75)	378-434						
PHEMA_IACKB	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/CHICKEN/GERMANY/N/49)	108-142	375-435	496-528				
PHEMA_IACKC	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/CHICKEN/PENNSYLVANIA/1/83)	360-432	487-533					
PHEMA_IACKP	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/CHICKEN/PENNSYLVANIA/1/83)	360-432	487-532					
PHEMA_IACKQ	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/CHICKEN/SCOTLAND/59)	377-468	504-549					
PHEMA_IACK3	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/CHICKEN/VICTORIA/1/85)	112-146	377-469					
PHEMA_IACKV	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERTA/35/76)	378-434						
PHEMA_IADA1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERTA/60/76)	377-476	495-547					
PHEMA_IADA2	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERTA/76/76)	380-453	506-548					
PHEMA_IADAJ	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERTA/35/76)	379-418	506-548					
PHEMA_IADA4	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/CZECHOSLOVAK/1/56)	378-434						
PHEMA_IADCZ	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/ENGLAND/1/56)	377-432						
PHEMA_IADE1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOKKAIDO/5/77)	21-55						
PHEMA_IADH1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOKKAIDO/8/80)	364-440						
PHEMA_IADH3	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOKKAIDO/10/80)	364-440						
PHEMA_IADH3	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOKKAIDO/21/80)	364-440						
PHEMA_IADH4	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOKKAIDO/21/82)	364-440						
PHEMA_IADH5	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOKKAIDO/9/83)	364-440						
PHEMA_IADH6	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOKKAIDO/10/83)	364-440						
PHEMA_IADH7	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/IRELAND/113/83)	379-471	506-551					
PHEMA_IADIR	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERTA/HP/15346/76)	21-55						
PHEMA_IADM1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERTA/HP/15918/76)	380-456						
PHEMA_IADN2	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/NEW YORK/12/78)	21-55						
PHEMA_IADNY	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/NEW ZEALAND/3/76)	378-434						
PHEMA_IADU1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/UKRAINE/1/63)	21-55						
PHEMA_IADU3	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/UKRAINE/1/63)	380-456						
PHEMA_IADU3	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/ENGLAND/311/77)	380-458						
PHEMA_IAFPA	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK)	377-477						
PHEMA_IAGRE	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/GREY TEAL/AUSTRALIA/2/79)	378-434						
PHEMA_IAGU2	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/GULL/MARYLAND/704/77)	378-433						
PHEMA_IAGUA	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/GULL/ASTRAKHAN/233/84)	377-476						
PHEMA_IAHAL	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/ALGIERS/72)	379-455						
PHEMA_IANC6	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/CANBRIDGE/1/63)	112-146	360-484	503-537				
PHEMA_IANC7	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/CANBRIDGE/1/73)	112-146	360-484	503-537				
PHEMA_IAHCD	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/DETROIT/1/64)	360-484	503-537					
PHEMA_IAHDE	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/DETROIT/1/64)	360-484	503-537					
PHEMA_IAHFO	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/FONTAINEBLEAU/79)	379-455						
PHEMA_IAHK6	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/KENTUCKY/2/86)	379-455						
PHEMA_IAHK7	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/KENTUCKY/1/87)	379-455						
PHEMA_IAHL5	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/LEXINGTON/1/66)	112-146	360-484	503-537				
PHEMA_IAHLO	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/LONDON/1/1/73)	112-146	360-484	503-537				
PHEMA_IAHM3	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/MIAMI/1/63)	379-455						
PHEMA_IAHNM	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/NEW MARKET/1/76)	379-455						
PHEMA_IAHNN	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/NEW MARKET/1/77)	112-146	360-484	503-537				
PHEMA_IAHPR	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/PRAGUE/1/56)	112-146	360-484	503-537				
PHEMA_IAHRO	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/ROMANIA/4/80)	379-455						
PHEMA_IAHSA	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/SANTIAGO/1/65)	379-455						
PHEMA_IAHSP	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/SAO PAULO/1/76)	112-146	360-484	503-537				
PHEMA_IAHSW	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/SWITZERLAND/13/72)	112-146	360-484	503-537				
PHEMA_IAHTE	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/TENNESSEE/1/56)	379-455						
PHEMA_IAHTO	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/TOKYO/71)	379-455						
PHEMA_IAHUR	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/URUGUAY/1/63)	379-455						

PCGENE	ALLMOTIF	All Viruses (no bacteriophage)								
FEATNAME	PROTSITE	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PHEMA_IAJAP	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/JAPAN/305/57)	375-483	503-547						
PHEMA_IAJEE	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/JEE/1/58/79)	376-478	506-541						
PHEMA_IALEN	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/1)	376-478	506-548						
PHEMA_IAMAA	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/ALLAHABAD/ASTRAKHAN/3/1968)	377-483							
PHEMA_IAMAB	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/ALLAHABAD/ASTRAKHAN/265/1982)	382-488							
PHEMA_IAMAO	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/ALLAHABAD/NEW YORK/4574/78)	380-486							
PHEMA_IAME1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/MEMPHIS/1/71)	380-486							
PHEMA_IAME3	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/MEMPHIS/102/72)	380-486							
PHEMA_IAME4	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/MEMPHIS/5/96)	384-440							
PHEMA_IAMIN	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/MINK/SWEDEN/84)	108-142	373-475						
PHEMA_IANT6	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/NT/60/68)	380-486							
PHEMA_IAPIL	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/PILOT WHALE/ALBANY/2/1984)	378-477	496-534						
PHEMA_IAPUE	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	376-478	506-548						
PHEMA_IARUD	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/RUDDY TURNSTONE/NEW JERSEY/338/84)	378-434							
PHEMA_IAS83	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/SEALA/ASSACHUSETTS/1/1983)	378-434							
PHEMA_IASH2	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/SHEARWATER/AUSTRALIA/72)	379-474	506-552						
PHEMA_IASTA	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/STAAULINGER/VICTORIA/3/1968)	112-146	377-469						
PHEMA_IATK1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/TURKEY/ARELAND/1/1961)	379-471	506-551						
PHEMA_IATKN	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/TURKEY/MINNESOTA/833/80)	378-434							
PHEMA_IATK0	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/TURKEY/ONTARIO/7732/66)	392-470	504-548						
PHEMA_IATKP	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/TURKEY/ONTARIO/61/1968)	378-434	493-540						
PHEMA_IATKR	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/TURKEY/OREGON/71)	30-64	374-474						
PHEMA_IATKW	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/TURKEY/WISCONSIN/1966)	377-472	487-539						
PHEMA_IATRA	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/TERN/AUSTRALIA/G70C/75)	21-55							
PHEMA_IAUDO	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/UDORN/307/72)	387-436							
PHEMA_IAUS5	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/USSR/90/77)	376-478	506-548						
PHEMA_IAV77	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/VICTORIA/3/75)	381-483							
PHEMA_IAWIL	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/WILSON-SMITH/33)	375-477	505-547						
PHEMA_IAZCO	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/SWINE/COLORADO/1/77)	380-436							
PHEMA_IAZH2	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/SWINE/HONG KONG/81/78)	384-440							
PHEMA_IAZH3	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/SWINE/HONG KONG/1496/83)	384-440							
PHEMA_IAZIN	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/SWINE/INDIANA/1726/88)	379-478	506-548						
PHEMA_IAZNJ	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/SWINE/NEW JERSEY/11/76)	379-478	506-547						
PHEMA_IAZUK	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/SWINE/UK/1/86)	380-436							
PHEMA_INBBE	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/BELJING/1/87)	388-473							
PHEMA_INBBO	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/BONN/45)	378-463							
PHEMA_INBEN	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/ENGLAND/222/82)	386-471							
PHEMA_INBMK	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/HONG KONG/8/73)	381-463							
PHEMA_INBLE	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/LEE/40)	387-472							
PHEMA_INMD	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/MARYLAND/59)	377-462							
PHEMA_INME	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/MEMPHIS/6/86)	381-468							
PHEMA_INNOR	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/NORECON/5/90)	386-471							
PHEMA_INSI1	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/SINGAPORE/222/79)	386-471							
PHEMA_INSU5	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/SUSSEX/1/80)	379-464							
PHEMA_INVI1	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/VICTORIA/2/85)	381-466							
PHEMA_INVK	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/VICTORIA/2/87)	388-473							
PHEMA_INCCA	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/CALIFORNIA/78)	483-531							
PHEMA_INCEN	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/ENGLAND/892/83)	471-559							
PHEMA_INCGL	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/GREAT LAKES/1167/54)	471-559							
PHEMA_INCHY	HEMAGGLUTININ	INFLUENZA C VIRUS (STRAIN C/HYOGO/1/83)	476-518							
PHEMA_INCJH	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/JOHANNESBURG/1/66)	484-532							
PHEMA_INCKY	HEMAGGLUTININ	INFLUENZA C VIRUS (STRAIN C/KYOTO/1/81)	476-518							

PCGENE	ALLMOTIS	All Viruses (no bacteriophages)								
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PHEMA_INCMI	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/MISSISSIPPI/80)	470-558							
PHEMA_INCNA	HEMAGGLUTININ	INFLUENZA C VIRUS (STRAIN C/NARA/82)	470-558							
PHEMA_INCP1	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/PIG/BEIJING/10/81)	471-559							
PHEMA_INCP2	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/PIG/BEIJING/115/81)	471-559							
PHEMA_INCP3	MEASLES VIRUS (STRAIN HALLE)	INFLUENZA C VIRUS (STRAIN C/PIG/BEIJING/439/82)	471-559							
PHEMA_INCTA	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/TAYLOR/1233/47	471-559							
PHEMA_INCYA	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/YAMAGATA/10/81)	471-559							
PHEMA_MEASE	HEMAGGLUTININ-NEURAMINIDASE	MEASLES VIRUS (STRAIN EDMONSTON)	46-90							
PHEMA_MEASH	HEMAGGLUTININ-NEURAMINIDASE	MEASLES VIRUS (STRAIN HALLE)	46-90							
PHEMA_MEASI	HEMAGGLUTININ-NEURAMINIDASE	MEASLES VIRUS (STRAIN IP-3-CA)	46-87							
PHEMA_MEASY	HEMAGGLUTININ-NEURAMINIDASE	MEASLES VIRUS (STRAIN YAMAGATA-1)	46-87							
PHEMA_MUMP1	HEMAGGLUTININ-NEURAMINIDASE	MUMPS VIRUS (STRAIN SBL-1	34-99							
PHEMA_MUMPM	HEMAGGLUTININ-NEURAMINIDASE	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	34-99							
PHEMA_MUMPR	HEMAGGLUTININ-NEURAMINIDASE	MUMPS VIRUS (STRAIN RW)	34-99							
PHEMA_MUMPS	HEMAGGLUTININ-NEURAMINIDASE	MUMPS VIRUS (STRAIN SBL)	34-99							
PHEMA_NDVA	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA-VICTORIA/32)	8-52	477-529						
PHEMA_NDVB	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C/45)	1-49							
PHEMA_NDVD	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN D26/76)	1-52							
PHEMA_NDVM	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN MIYADERA/51)	1-52							
PHEMA_NDVQ	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN QUEENSLAND/66)	1-52							
PHEMA_NDVTG	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN TEXAS G B./48)	1-49							
PHEMA_NDVU	HEMAGGLUTININ NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN ULSTER/67)	1-52							
PHEMA_PHODV	HEMAGGLUTININ-NEURAMINIDASE	PHOCINE DISTEMPER VIRUS	39-73							
PHEMA_PI1HW	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN WASHINGTON/1957)	66-110							
PHEMA_PI2H	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 2 VIRUS	247-281							
PHEMA_PI2HT	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSHIBA)	247-281							
PHEMA_PI3B	HEMAGGLUTININ-NEURAMINIDASE	BOVINE PARAINFLUENZA 3 VIRUS	38-93							
PHEMA_PI3H4	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	13-110	394-428						
PHEMA_PI3HA	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN AUS/124854/74)	20-110	394-428						
PHEMA_PI3HT	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN TEX/543/80)	13-110	394-428						
PHEMA_PI3HU	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN TEX/9305/82)	13-110	394-428						
PHEMA_PI3HV	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN TEX/12677/83)	13-110	394-428						
PHEMA_PI3HW	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN WASH/641/79)	13-110	394-428						
PHEMA_PI3HX	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN WASH/1311/73)	13-110	394-428						
PHEMA_PI4HA	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 4A VIRUS (STRAIN TOSHIBA)	54-88							
PHEMA_RACVI	HEMAGGLUTININ PRECURSOR	RACCOON POXVIRUS	166-214	256-290						
PHEMA_RINDK	HEMAGGLUTININ-NEURAMINIDASE	RINDERPEST VIRUS (STRAIN KABETE O)	46-87							
PHEMA_RINDL	HEMAGGLUTININ-NEURAMINIDASE	RINDERPEST VIRUS (STRAIN L)	46-87	191-225						
PHEMA_SEND5	HEMAGGLUTININ-NEURAMINIDASE	SENDAI VIRUS (STRAIN Z / HOST MUTANTS)	57-110							
PHEMA_SENDF	HEMAGGLUTININ-NEURAMINIDASE	SENDAI VIRUS (STRAIN FUSHIMI)	57-110							
PHEMA_SENDH	HEMAGGLUTININ-NEURAMINIDASE	SENDAI VIRUS (STRAIN HARRIS)	57-110							
PHEMA_SENDJ	HEMAGGLUTININ-NEURAMINIDASE	SENDAI VIRUS (STRAIN HVJ)	57-110							
PHEMA_SENDZ	HEMAGGLUTININ-NEURAMINIDASE	SENDAI VIRUS (STRAIN Z)	57-110							
PHEMA_SV41	HEMAGGLUTININ-NEURAMINIDASE	SIMIAN VIRUS 41	18-52	387-421						
PHEMA_SV5	HEMAGGLUTININ-NEURAMINIDASE	SIMIAN VIRUS 5 (STRAIN W3)	27-82							
PHEMA_SV5LN	HEMAGGLUTININ-NEURAMINIDASE	SIMIAN VIRUS 5 (ISOLATE HUMAN/LN)	27-82							
PHEMA_VARV	HEMAGGLUTININ PRECURSOR	VARIOLA VIRUS	177-211							
PHEXG_ADE02	PERIPENTONAL HEXON-ASSOCIATED PROTEIN	HUMAN ADENOVIRUS TYPE 2	90-134							
PHEXG_ADE05	PERIPENTONAL HEXON-ASSOCIATED PROTEIN	HUMAN ADENOVIRUS TYPE 5	90-134							
PHEX9_ADE02	HEXON-ASSOCIATED PROTEIN	HUMAN ADENOVIRUS TYPE 2	85-134							
PHEX9_ADE05	HEXON-ASSOCIATED PROTEIN	HUMAN ADENOVIRUS TYPE 5	85-134							
PHEX9_ADE07	HEXON-ASSOCIATED PROTEIN	HUMAN ADENOVIRUS TYPE 7, AND HUMAN ADENOVIRUS TYPE	93-138							

PCGENE	ALLMOTIS	All Viruses (no bacteriophages)							
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
PHEX9_ADE12	HEXON-ASSOCIATED PROTEIN	HUMAN ADENOVIRUS TYPE 12	88-117						
PHEX9_ADE41	HEXON-ASSOCIATED PROTEIN	HUMAN ADENOVIRUS TYPE 41	67-126						
PHEX9_ADEC2	HEXON-ASSOCIATED PROTEIN	CANINE ADENOVIRUS TYPE 2	93-103						
PHEX9_ADENT	HEXON-ASSOCIATED PROTEIN	TUPAIA ADENOVIRUS	61-109						
PHEX_ADEN3	HEXON PROTEIN	HUMAN ADENOVIRUS TYPE 3	341-386	433-467	581-624				
PHEX_ADE05	HEXON PROTEIN	HUMAN ADENOVIRUS TYPE 5	320-379						
PHEX_ADE40	HEXON PROTEIN	HUMAN ADENOVIRUS TYPE 40	303-352	408-449	553-587				
PHEX_ADE41	HEXON PROTEIN	HUMAN ADENOVIRUS TYPE 41	306-355	355-389					
PHEX_ADEB3	HEXON PROTEIN	BOVINE ADENOVIRUS TYPE 3	301-346	385-419	544-578	705-739			
PHOG_COWPX	HOST RANGE PROTEIN	COWPOX VIRUS	320-395	435-489					
P1126_ASFB7	LATE PROTEIN P126R	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	110-151						
PBMP_CAMV4	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D4)	3-44	378-420					
PBMP_CAMVB	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	3-37	378-419					
PBMP_CAMVC	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	3-37	378-419					
PBMP_CAMVD	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D/I)	3-44	378-419					
PBMP_CAMVE	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NRC)	3-37	378-419					
PBMP_CAMVI	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN S-JAPAN)	3-37	378-419					
PBMP_CAMVN	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY8153)	3-37	378-419					
PBMP_CAMVP	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN PV147)	3-33	374-419					
PBMP_CAMVS	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN STRASBOURG)	3-37	378-419					
PBMP_CERV	INCLUSION BODY MATRIX PROTEIN	CARNATION ETCHED RING VIRUS	3-37						
PBMP_FIVD	INCLUSION BODY MATRIX PROTEIN	FIGWORT MOSAIC VIRUS (STRAIN DXS)	1-31	372-406					
PBMP_RTDMV	INCLUSION BODY MATRIX PROTEIN		1-48	132-179					
PIC18_HCMVA	PROBABLE PROCESSING AND TRANSPORT PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	53-98	290-324	498-532				
PIC18_HSV11	PROCESSING AND TRANSPORT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	331-365						
PIC18_HSV1A	PROCESSING AND TRANSPORT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN ANGELOTTI)	331-365						
PIC18_HSV1F	PROCESSING AND TRANSPORT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN F)	324-362						
PIC18_HSV82	PROBABLE PROCESSING AND TRANSPORT PROTEIN	BOVINE HERPESVIRUS TYPE 2 (STRAIN BMV)	466-500						
PIC18_HSVEB	PROBABLE PROCESSING AND TRANSPORT PROTEIN	HERPESVIRUS TYPE 1 (ISOLATE HVS13A)	341-375						
PIC18_HSVSA	PROBABLE PROCESSING AND TRANSPORT PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	58-99	341-395					
PIC18_MCHV5	PROBABLE PROCESSING AND TRANSPORT PROTEIN	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	665-112	290-340	647-691				
PIC1I_FRVF	PROBABLE PROCESSING AND TRANSPORT PROTEIN	PSEUDORABIES VIRUS (STRAIN INDIANA-FUNKHAUSER / BECKE	299-333	303-337					
PICP0_HSV81	TRANS-ACTING TRANSCRIPTIONAL PROTEIN ICP0	BOVINE HERPESVIRUS TYPE 1 (STRAIN JURA)	190-224						
PICP0_HSVBK	TRANS-ACTING TRANSCRIPTIONAL PROTEIN ICP0	BOVINE HERPESVIRUS TYPE 1 (STRAIN K22)	190-224						
PION_HSVMG	TRANS-ACTING TRANSCRIPTIONAL ACTIVATOR PR	MAREK'S DISEASE HERPESVIRUS (STRAIN GA)	1023-1056						
PIOP4_VZVD	TRANS-ACTING TRANSCRIPTIONAL PROTEIN ICP4	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	920-954						
PIE63_HCMVA	TRANSCRIPTIONAL REGULATOR IE63 HOMOLOG	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	207-241						
PIE63_HSV11	TRANSCRIPTIONAL REGULATOR IE63	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	241-275						
PIE63_HSVEB	TRANSCRIPTIONAL REGULATOR IE63 HOMOLOG	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	282-316						
PIE63_VZVD	TRANSCRIPTIONAL REGULATOR IE63 HOMOLOG	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	191-219	258-306					
PIE64_HSVE1	IMMEDIATE-EARLY PROTEIN IE68	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	87-121						
PIE68_HSVEB	IMMEDIATE-EARLY PROTEIN IE68	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	99-133						
PIE68_HSVSA	IMMEDIATE-EARLY PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	48-85						
PIE01_HCMVA	HYPOTHETICAL PROTEIN IE1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	13-47						
PIE12_HCMVA	HYPOTHETICAL PROTEIN IE12	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	74-162						
PKABL_MLVAB	TYROSINE-PROTEIN KINASE TRANSFORMING PROT	ABELSON MURINE LEUKEMIA VIRUS	217-251						
PKABL_MLVAB	TYROSINE-PROTEIN KINASE TRANSFORMING PROT	ABELSON MURINE LEUKEMIA VIRUS	217-251						
PKAKT_MLVAT	AKT KINASE TRANSFORMING PROTEIN	AKT8 MURINE LEUKEMIA VIRUS	1772-227	263-304					
PKFES_FSVGA	TYROSINE-PROTEIN KINASE TRANSFORMING PROT	FELINE SARCOMA VIRUS (STRAIN GARDNER-ARNSTEIN)	23-64	104-138					
PKFGR_FSVGA	TYROSINE-PROTEIN KINASE TRANSFORMING PROT	FELINE SARCOMA VIRUS (STRAIN GARDNER-RASHEED)	218-252						
PKFMS_FSVAD	PMS TYROSINE KINASE TRANSFORMING PROTEIN	FELINE SARCOMA VIRUS (STRAIN MCDONOUGH)	333-362	618-639	813-849				
PKFPS_AVISP	TYROSINE-PROTEIN KINASE TRANSFORMING PROT	AVIAN SARCOMA VIRUS (STRAIN PRCII)	65-99						

PCGENE	ALLMOTIS	All Viruses (no bacteriophages)								
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PKFPS_FUISV	TYROSINE-PROTEIN KINASE TRANSFORMING PROT	FUJINAMI SARCOMA VIRUS	65-99	152-251	348-398					
PKITH_AMEPV	THYMIDINE KINASE	AMSACTA MOOREI ENTOMOPOXVIRUS	47-81							
PKITH_CAPVK	THYMIDINE KINASE	CAPRIPOXVIRUS (STRAIN KS-1	38-82							
PKITH_EBV	THYMIDINE KINASE	EPSTEIN-BARR VIRUS (STRAIN B95-8)	228-262	431-472						
PKITH_HSV11	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	90-124							
PKITH_HSV1C	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN CL101)	90-124							
PKITH_HSV1E	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN HFEM)	90-124							
PKITH_HSV1K	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	90-124							
PKITH_HSV1S	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN SC16)	90-124							
PKITH_HSV23	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN 333)	91-125							
PKITH_HSVBM	THYMIDINE KINASE	BOVINE HERPES VIRUS TYPE 2 (STRAIN WC11)	616-665							
PKITH_HSVE4	THYMIDINE KINASE	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	19-53	178-219						
PKITH_HSVEB	THYMIDINE KINASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	19-53	178-220						
PKITH_HSVF	THYMIDINE KINASE	FELINE HERPESVIRUS (FELID HERPESVIRUS 1)	180-214							
PKITH_HSVJR	THYMIDINE KINASE	MARMOSET HERPESVIRUS	52-86							
PKITH_HSVSA	THYMIDINE KINASE	HERPESVIRUS SAIMIRI (STRAIN 11)	337-389							
PKITH_PRVNJ	THYMIDINE KINASE	PSEUDORABIES VIRUS (STRAIN NIA-3)	161-202							
PKMIL_AVIMH	MIL SERINE/THREONINE-PROTEIN KINASE TRANSF	AVIAN RETROVIRUS MH2	69-103							
PKR15_HSV11	GENE 15 PROTEIN KINASE	ICTALURID HERPESVIRUS 1	190-224							
PKR2_HSV11	PROBABLE SERINE/THREONINE-PROTEIN KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	57-91	281-315						
PKR34_HSV11	GENE 34 PROTEIN KINASE	ICTALURID HERPESVIRUS 1	487-528	597-631						
PKRAF_MSV36	RAF SERINE/THREONINE-PROTEIN KINASE TRANSF	MURINE SARCOMA VIRUS 3611	11-45							
PKRB1_VACCC	30 KD PROTEIN KINASE HOMOLOG	VACCINIA VIRUS (STRAIN COPENHAGEN)	127-168							
PKRB1_VACCV	30 KD PROTEIN KINASE HOMOLOG	VACCINIA VIRUS (STRAIN WR)	127-168							
PKRB1_VARV	30 KD PROTEIN KINASE HOMOLOG	VARIOLA VIRUS	121-171							
PKRB2_VACCC	POSSIBLE PROTEIN KINASE B12	VACCINIA VIRUS (STRAIN COPENHAGEN)	147-181							
PKRB2_VACCV	POSSIBLE PROTEIN KINASE B12	VACCINIA VIRUS (STRAIN WR)	147-181							
PKRF1_VACCC	POSSIBLE PROTEIN KINASE F10	VACCINIA VIRUS (STRAIN COPENHAGEN)	169-203							
PKRF1_VACCP	POSSIBLE PROTEIN KINASE F10	VACCINIA VIRUS (STRAIN L-IVP)	136-170							
PKRF1_VARV	POSSIBLE PROTEIN KINASE F10	VARIOLA VIRUS	169-203							
PKROS_AVISU	ROS TYROSINE KINASE TRANSFORMING PROTEIN	AVIAN SARCOMA VIRUS (STRAIN UR2)	111-145							
PKRYK_AVIRJ	TYROSINE-PROTEIN KINASE TRANSFORMING PROT	AVIAN RETROVIRUS RPL30	15-66							
PKTHY_VACCV	THYMIDYLATE KINASE	VACCINIA VIRUS (STRAIN WR), (STRAIN COPENHAGEN)	133-169							
PKYES_AVISY	TYROSINE-PROTEIN KINASE TRANSFORMING PROT	AVIAN SARCOMA VIRUS (STRAIN Y73)	174-233							
PL100_ADE02	LATE 100 KD PROTEIN	HUMAN ADENOVIRUS TYPE 2	441-475							
PL100_ADE05	LATE 100 KD PROTEIN	HUMAN ADENOVIRUS TYPE 5	223-264							
PL100_ADE40	LATE 100 KD PROTEIN	HUMAN ADENOVIRUS TYPE 40	191-232	408-442						
PL100_ADE41	LATE 100 KD PROTEIN	HUMAN ADENOVIRUS TYPE 41	199-233							
PL52_ADE02	LATE L1 52 KD PROTEIN	HUMAN ADENOVIRUS TYPE 2	238-284	301-349						
PL52_ADE05	LATE L1 52 KD PROTEIN	HUMAN ADENOVIRUS TYPE 5	238-284	301-349						
PLMP2_EBV	GENE TERMINAL PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	144-179	294-338						
PMCEL_SFVKA	MRNA CAPPING ENZYME	SHOPE FIBROMA VIRUS (STRAIN KASZA)	54-152	622-656						
PMCEL_VACCC	MRNA CAPPING ENZYME	VACCINIA VIRUS (STRAIN COPENHAGEN)	1-41	623-657						
PMCEL_VACCV	MRNA CAPPING ENZYME	VACCINIA VIRUS (STRAIN WR)	1-41	623-657						
PMCEL_VARV	MRNA CAPPING ENZYME	VARIOLA VIRUS	1-39	623-657						
PMCES_VACCC	MRNA CAPPING ENZYME	VACCINIA VIRUS (STRAIN COPENHAGEN)	72-137	245-286						
PMCES_VACCV	MRNA CAPPING ENZYME	VACCINIA VIRUS (STRAIN WR)	72-137	245-286						
PMCES_VARV	MRNA CAPPING ENZYME	VARIOLA VIRUS	72-137	245-286						
PMCE_ASFB7	MRNA CAPPING ENZYME	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	116-157	279-313	738-772					
PMOVP_ORSV	MOVEMENT PROTEIN	ODONTOGLOSSUM RINGSPOT VIRUS	53-90							
PMOVP_PPMVS	MOVEMENT PROTEIN	PEPPER MILD MOTTLE VIRUS (STRAIN SPAIN)	26-66							
PMOVP_TMGMV	MOVEMENT PROTEIN	TOBACCO MILD GREEN MOSAIC VIRUS (TMV STRAIN U2)	29-66							

PCGENE	ALLAMOTIS	All Viruses (no bacteriophages)	AREA1	AREA1	AREA1	AREA1	AREA5	AREA6	AREA7	AREA8
ITEMNAME	PROTEIN	VIRUS								
PMOVP_TMVTO	MOVEMENT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN TOMATO)	33-46							
PMOVP_TMVTO	MOVEMENT PROTEIN	TOMATO MOSAIC VIRUS (STRAIN LIIA)	33-80							
PMOVP_TOMVA	MOVEMENT PROTEIN	TOMATO MOSAIC VIRUS (STRAIN LII)	33-80							
PMOVP_TOMVL	MOVEMENT PROTEIN	CHLORELLA VIRUS HC-1A	122-356							
PMTCI_CHVNI	MODIFICATION METHYLASE CVIBI	PARAMECIUM BURSARIA CHLORELLA VIRUS 1	116-164							
PMTCI_CHVPI	MODIFICATION METHYLASE CVIAII	AVIAN MYELOCYTOMATOSIS VIRUS CMII	335-419							
PMTC_AVB42	MYC TRANSFORMING PROTEIN	AVIAN MYELOCYTOMATOSIS VIRUS MC29	330-267	330-267	336-430					
PMTC_AVB4C	MYC TRANSFORMING PROTEIN	AVIAN MYELOCYTOMATOSIS VIRUS 10B1	330-267	330-267	336-430					
PMTC_AVB4D	MYC TRANSFORMING PROTEIN	AVIAN RETROVIRUS MH2E21	377-421							
PMTC_AVB4E	MYC TRANSFORMING PROTEIN	AVIAN RETROVIRUS OK10	324-261	370-414						
PMTC_AVT0K	MYC TRANSFORMING PROTEIN	FELINE LEUKEMIA VIRUS	393-437							
PMTC_FLV	MYC TRANSFORMING PROTEIN	FELINE LEUKEMIA PROVIRUS FTT	393-437							
PMTC_FLVTT	MYC TRANSFORMING PROTEIN	FELINE LEUKEMIA PROVIRUS FTT	13-46							
PNCA3_CVMA5	NUCLEOCAPSID PROTEIN	MURINE CORONAVIRUS MHV (STRAIN A19)	177-211							
PNCA3_AINOV	NUCLEOCAPSID PROTEIN	AINO VIRUS	46-82		122-156					
PNCAP_BEV	NUCLEOCAPSID PROTEIN	BERNE VIRUS	62-108	163-200	248-303	343-383				
PNCAP_BISVA	NUCLEOCAPSID PROTEIN	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A51908)	176-238							
PNCAP_BUNGE	NUCLEOCAPSID PROTEIN	BUNYAVIRUS GERMISTON	176-239							
PNCAP_BUNLC	NUCLEOCAPSID PROTEIN	BUNYAVIRUS LA CROSSE	176-239							
PNCAP_BUNSH	NUCLEOCAPSID PROTEIN	BUNYAVIRUS SNOWSHOE HARE	175-238							
PNCAP_BUNYW	NUCLEOCAPSID PROTEIN	BUNYAMWERA VIRUS	233-306	427-461						
PNCAP_CCHFV	NUCLEOCAPSID PROTEIN	CRIMEAN-CONGO HEMORRHAGIC FEVER VIRUS (ISOLATE C68)	233-306	427-461						
PNCAP_CDVD	NUCLEOCAPSID PROTEIN	CANINE DISTEMPER VIRUS (STRAIN ONDERSTEPOORT)	137-174	178-217	354-402					
PNCAP_CHAV	NUCLEOCAPSID PROTEIN	CHANDIPURA VIRUS (STRAIN 1653514)	40-84	121-169						
PNCAP_CVBF	NUCLEOCAPSID PROTEIN	BOVINE CORONAVIRUS (STRAIN F15)	149-183							
PNCAP_CVBN	NUCLEOCAPSID PROTEIN	BOVINE CORONAVIRUS (STRAIN ARIBUS)	149-183							
PNCAP_CVCAE	NUCLEOCAPSID PROTEIN	CANINE ENTERIC CORONAVIRUS (STRAIN K378)	165-227							
PNCAP_CVHOC	NUCLEOCAPSID PROTEIN	HUMAN CORONAVIRUS (STRAIN OC43)	149-183							
PNCAP_CVMJH	NUCLEOCAPSID PROTEIN	MURINE CORONAVIRUS MHV (STRAIN JHM)	12-46							
PNCAP_CVPFS	NUCLEOCAPSID PROTEIN	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (S	149-206							
PNCAP_CVPPU	NUCLEOCAPSID PROTEIN	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (S	165-227							
PNCAP_CVPR8	NUCLEOCAPSID P.OTEIN	PORCINE RESPIRATORY CORONAVIRUS (STRAIN 86/13/904 / BUT	149-228							
PNCAP_CVPRU	NUCLEOCAPSID PROTEIN	PORCINE RESPIRATORY CORONAVIRUS (STRAIN RAH)	149-228							
PNCAP_CVRSD	NUCLEOCAPSID PROTEIN	RAT CORONAVIRUS (STRAIN 681)	12-46							
PNCAP_CVTKE	NUCLEOCAPSID PROTEIN	TURKEY ENTERIC CORONAVIRUS	149-183							
PNCAP_DUCBV	NUCLEOCAPSID PROTEIN	DUCBE VIRUS	230-306							
PNCAP_FIPV	NUCLEOCAPSID PROTEIN	FELINE INFECTIOUS PERITONITIS VIRUS (STRAIN 79-1146)	151-206							
PNCAP_HANTV	NUCLEOCAPSID PROTEIN	HANTAAN VIRUS (STRAIN 76-118)	1-33	40-74	333-381					
PNCAP_HAZPV	NUCLEOCAPSID PROTEIN	HAZARA VIRUS (ISOLATE AC280)	233-297							
PNCAP_HRSV1	NUCLEOCAPSID PROTEIN	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAI	62-145	183-200	248-303	343-386				
PNCAP_HRSVA	NUCLEOCAPSID PROTEIN	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	62-145	183-200	248-303	343-386				
PNCAP_BVG	NUCLEOCAPSID PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN GRAY)	186-227							
PNCAP_BVK	NUCLEOCAPSID PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN KB8533)	186-230							
PNCAP_JUNIN	NUCLEOCAPSID PROTEIN	JUNIN ARENAVIRUS	96-131							
PNCAP_LASGO	NUCLEOCAPSID PROTEIN	LASSA VIRUS (STRAIN GA391)	65-111	174-174						
PNCAP_LASSJ	NUCLEOCAPSID PROTEIN	LASSA VIRUS (STRAIN JOSIAH)	65-111	122-174	467-504					
PNCAP_LDV	NUCLEOCAPSID PROTEIN	LACTATE DEHYDROGENASE-ELEVATING VIRUS	13-46							
PNCAP_LYCVA	NUCLEOCAPSID PROTEIN	LYMPHOCYTIC CHORIOMENINGITIS VIRUS (STRAIN ARMSTRON	65-117	460-497						
PNCAP_LYCVW	NUCLEOCAPSID PROTEIN	LYMPHOCYTIC CHORIOMENINGITIS VIRUS (STRAIN WE)	43-79	83-117	460-497					
PNCAP_MAGV	NUCLEOCAPSID PROTEIN	MAGUARI VIRUS	175-238							
PNCAP_MEASE	NUCLEOCAPSID PROTEIN	MEASLES VIRUS (STRAIN EDMONSTON)	188-226	363-411						
PNCAP_MEASH	NUCLEOCAPSID PROTEIN	MEASLES VIRUS (STRAIN HALLE)	188-226	363-411						
PNCAP_MEASI	NUCLEOCAPSID PROTEIN	MEASLES VIRUS (STRAIN IP-3-CA)	188-226	363-411						

PCGENE	ALLNOTES	AB Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	OTHER
TITLE NAME	PROTEIN	VIRUS								
PNCAP_MEASY	NUCLEOCAPSID PROTEIN	MEASLES VIRUS (STRAIN YAMAGATA-1)	180-226	360-411						
PNCAP_MOPEI	NUCLEOCAPSID PROTEIN	MOPEIA VIRUS	65-106	471-505						
PNCAP_MUAPI	NUCLEOCAPSID PROTEIN	MUAPI VIRUS (STRAIN SRL-1)	214-255	500-534						
PNCAP_MUAPM	NUCLEOCAPSID PROTEIN	MUAPI VIRUS (STRAIN MIYAJIMA VACCINE)	214-255							
PNCAP_PHV	NUCLEOCAPSID PROTEIN	PROSPECT HILL VIRUS	1-35	40-74	337-392					
PNCAP_P1IHC	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C39)	212-272	441-510						
PNCAP_P1IHW	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN WASHINGTON/1935)	212-272	441-510						
PNCAP_P2HT	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSHIBA)	214-266	444-518						
PNCAP_P2IB	NUCLEOCAPSID PROTEIN	BOVINE PARAINFLUENZA 3 VIRUS	300-403	446-490						
PNCAP_P3IH	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	87-135	208-266	344-403	440-491				
PNCAP_P3IHA	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 4A VIRUS (STRAIN TOSHIBA)	58-94	191-267						
PNCAP_P4IB	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 4B VIRUS (STRAIN 8-333)	58-94	191-267						
PNCAP_PIRV	NUCLEOCAPSID PROTEIN	PICHINDE ARENAVIRUS	61-112							
PNCAP_PIYV	NUCLEOCAPSID PROTEIN	PIRY VIRUS	71-116	225-259						
PNCAP_PUMAH	NUCLEOCAPSID PROTEIN	PUMALA VIRUS (STRAIN HALLNAS B1)	1-35	40-75	337-392					
PNCAP_PUMAS	NUCLEOCAPSID PROTEIN	PUMALA VIRUS (STRAIN SOTKAMO)	1-35	40-75	337-385					
PNCAP_PVM	NUCLEOCAPSID PROTEIN	PNEUMONIA VIRUS OF MICE	93-141	248-303	344-388					
PNCAP_RABVA	NUCLEOCAPSID PROTEIN	RABIES VIRUS (STRAIN AVO1)	133-187							
PNCAP_SENDS	NUCLEOCAPSID PROTEIN	SENDAI VIRUS (STRAIN 2 / HOST MUTANTS)	212-272	341-404						
PNCAP_SENDE	NUCLEOCAPSID PROTEIN	SENDAI VIRUS (STRAIN ENDERS)	212-272	345-404						
PNCAP_SENDZ	NUCLEOCAPSID PROTEIN	SENDAI VIRUS (STRAIN Z)	212-272	345-405						
PNCAP_SEOUS	NUCLEOCAPSID PROTEIN	SEOUL VIRUS (STRAIN SR-11)	1-35	40-74	333-381					
PNCAP_SV41	NUCLEOCAPSID PROTEIN	SIMIAN VIRUS 41	215-267	373-406	418-466					
PNCAP_STMV	NUCLEOCAPSID PROTEIN	SONCHUS YELLOW NET VIRUS	332-366							
PNCAP_TACV	NUCLEOCAPSID PROTEIN	TACAJURE VIRUS	50-84	210-264						
PNCAP_TOSV	NUCLEOCAPSID PROTEIN	TOSCANA VIRUS	215-249							
PNCAP_TSWVB	NUCLEOCAPSID PROTEIN	TOMATO SPOTTED WILT VIRUS (BRAZILIAN ISOLATE CNPH/BR)	79-120							
PNCAP_TSWVN	NUCLEOCAPSID PROTEIN	TOMATO SPOTTED WILT VIRUS (HAWAIIAN ISOLATE)	79-120							
PNCAP_TSWVL	NUCLEOCAPSID PROTEIN	TOMATO SPOTTED WILT VIRUS (STRAIN L1)	79-120							
PNCAP_UUK	NUCLEOCAPSID PROTEIN	UUKUNIEMI VIRUS	51-102							
PNCAP_VHSV0	NUCLEOCAPSID PROTEIN	VIRAL HEMORRHAGIC SEPTICEMIA VIRUS (STRAIN 07-71)	249-335							
PNCAP_VHSVM	NUCLEOCAPSID PROTEIN	VIRAL HEMORRHAGIC SEPTICEMIA VIRUS (STRAIN MARAH)	142-180	249-335						
PNCAP_VSVID	NUCLEOCAPSID PROTEIN	VESICULAR STOMATITIS VIRUS (SEROTYPE INDIANA / STRAIN CA	42-108							
PNCAP_VSVSI	NUCLEOCAPSID PROTEIN	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRA	67-115							
PNEF_HV1BE	NEGATIVE FACTOR	VESICULAR STOMATITIS VIRUS (STRAIN SAN JUAN)	42-115							
PNEF_HV1D1	NEGATIVE FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE BEN)	7-41							
PNEF_HV1RO	NEGATIVE FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE D1M)	7-41							
PNEF_HV1SB	NEGATIVE FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE ROD)	113-163							
PNEF_HV1ST	NEGATIVE FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE SBL/ISY)	109-150							
PNEF_SIVAI	NEGATIVE FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE ST)	108-149							
PNEF_SIVS4	NEGATIVE FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM / CLONE GR	96-140							
PNRAM_IABDA	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/BLACK DUCK/AUSTRALIA/780/7	9-41	233-283						
PNRAM_IACAD	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/CAMEL/MONGOLIA/82)	47-81							
PNRAM_IACHI	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/CHICKEN/PENNSYLVANIA/1370	33-74							
PNRAM_IACKQ	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/CHICKEN/PENNSYLVANIA/1370	58-91							
PNRAM_IACKA	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/CHICKEN/PENNSYLVANIA/1720	349-381							
PNRAM_IADCK	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/DUCK/GERMANY/49)	249-283							
PNRAM_IADDE	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/DUCK/GERMANY/49)	14-41							
PNRAM_IAFPW	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/WEYBRID	14-41	194-239						
PNRAM_IAHCO	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/EQUINE2/OR/1/74	10-41	193-233						
PNRAM_IAKI1	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/EQUINE/KENTUCKY/1/81)	3-44	361-402						
PNRAM_IAKTE	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/KIEV/1/79)	50-91							

PCGENE	ALLMOTIF	All Viruses (no bacteriophage)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7
FILENAME	PROTEIN	VIRUS							
PNRAM_IALEN	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/1/41)	50-91						
PNRAM_IAAEI	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/AEDP/115/71(H7N7)/A/BELLANY/42(H	50-88						
PNRAM_IAJUE	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/JUDDY TURNSTONE/NEW JERSE	49-91						
PNRAM_IASHI	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/SHEARWATER/AUSTRALIA/72)	10-44						
PNRAM_IATKR	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/TURKEY/OREGON/71)	7-41						
PNRAM_IATKA	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/TERN/AUSTRALIA/G70/75)	49-91						
PNRAM_IAUSS	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/USSR/90/77)	50-91						
PNRAM_IAWIB4	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/WHALE/MAINE/1/84)	49-91						
PNRAM_INBBE	NEURAMINIDASE	INFLUENZA B VIRUS (STRAIN B/BEIJING/1/87)	5-46	348-383					
PNRAM_INBIK	NEURAMINIDASE	INFLUENZA B VIRUS (STRAIN B/HONG KONG/8/73)	5-46	348-383					
PNRAM_INBLE	NEURAMINIDASE	INFLUENZA B VIRUS (STRAIN B/LEE/40)	5-46	348-383					
PNRAM_INBLN	NEURAMINIDASE	INFLUENZA B VIRUS (STRAIN B/LENINGRAD/179/86) (STRAIN BA	1-39	348-382					
PNRAM_INBMD	NEURAMINIDASE	INFLUENZA B VIRUS (STRAIN B/MARYLAND/59)	5-39	348-383					
PNRAM_INBNF	NEURAMINIDASE	INFLUENZA B VIRUS (STRAIN B/NETHERLANDS/9/69)	5-46	348-383					
PNRAM_INBOR	NEURAMINIDASE	INFLUENZA B VIRUS (STRAIN B/OREGON/5/80)	5-46	348-383					
PNRAM_INBSI	NEURAMINIDASE	INFLUENZA B VIRUS (STRAIN B/SINGAPORE/222/79)	5-39	348-383					
PNRAM_INBUS	NEURAMINIDASE	INFLUENZA B VIRUS (STRAIN B/USSR/100/83)	5-39	348-383					
PNRAM_INBVI	NEURAMINIDASE	INFLUENZA B VIRUS (STRAIN B/VICTORIA/2/85	5-39	348-382					
PNIS_SIDEV	PROBABLE STRUCTURAL PROTEIN PRECURSOR	BOMBYX DENSONUCLEOSIS VIRUS	790-838						
PNIS_INSVN	NON-STRUCTURAL PROTEIN	DIPTERA NECROTIC SPOT VIRUS (STRAIN NL-87)	95-139	204-238					
PNIS_TSWVB	NON-STRUCTURAL PROTEIN	TOMATO SPOTTED WILT VIRUS (BRAZILIAN ISOLATE CPNH1/BR	1-37						
PNIS_TSWVL	NON-STRUCTURAL PROTEIN	TOMATO SPOTTED WILT VIRUS (STRAIN LI)	1-37						
PNTPI_AMEPV	NUCLEOSIDE TRIPHOSPHATASE I	AMSACTA MOOREI ENTOMOPOXVIRUS	28-69	1110-144					
PNTPI_CHEPV	NUCLEOSIDE TRIPHOSPHATASE I	CHORISTONEURA BIENNIS ENTOMOPOXVIRUS	122-169	415-449	514-555				
PNTPI_VACCC	NUCLEOSIDE TRIPHOSPHATASE I	VACCINIA VIRUS (STRAIN COPENHAGEN)	56-90	248-288	346-399				
PNTPI_VACCV	NUCLEOSIDE TRIPHOSPHATASE I	VACCINIA VIRUS (STRAIN WR)	56-90	248-288	346-399				
PNTPI_VARV	NUCLEOSIDE TRIPHOSPHATASE I	VARIOLA VIRUS	114-191	415-505					
PP100_HSVAU	MAJOR ANTIGENIC STRUCTURAL PROTEIN	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	189-233	609-735					
PPAP1_VACCC	POLY(A) POLYMERASE CATALYTIC SUBUNIT	VACCINIA VIRUS (STRAIN COPENHAGEN)	121-180						
PPAP1_VACCV	POLY(A) POLYMERASE CATALYTIC SUBUNIT	VACCINIA VIRUS (STRAIN WR)	121-180						
PPAP1_VARV	POLY(A) POLYMERASE CATALYTIC SUBUNIT	VARIOLA VIRUS	121-180						
PPAP2_CAPVK	POLY(A) POLYMERASE REGULATORY SUBUNIT	CAPRIPOXVIRUS (STRAIN KS-1)	112-146						
PPAP2_FOWPV	POLY(A) POLYMERASE REGULATORY SUBUNIT	FOWLPOX VIRUS	95-154						
PPAP2_VACCC	POLY(A) POLYMERASE REGULATORY SUBUNIT	VACCINIA VIRUS (STRAIN COPENHAGEN)	201-249						
PPAP2_VACCV	POLY(A) POLYMERASE REGULATORY SUBUNIT	VACCINIA VIRUS (STRAIN WR)	201-249						
PPAP2_VARV	POLY(A) POLYMERASE REGULATORY SUBUNIT	VARIOLA VIRUS	201-249						
PPE11_NPVAC	12.1 KD PROTEIN IN PE 5'REGION	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	15-56	60-103					
PPE12_NPVOP	11.3 KD PROTEIN IN P26 5'REGION	ORGYIA PSEUDOTSUGATA ARJUTICAPSID POLYHEDROSIS VIRUS	11-98						
PPE13_NPVAC	MAJOR BASEDIATE EARLY PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	15-77	197-249					
PPE13_NPVOP	MAJOR BASEDIATE EARLY PROTEIN	ORGYIA PSEUDOTSUGATA ARJUTICAPSID POLYHEDROSIS VIRUS	190-240						
PPE48_NPVAC	48.3 KD PROTEIN IN PE-P26 INTERGENIC REGION	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	4-43	48-89	87-131				
PPE48_NPVOP	47.3 KD PROTEIN IN PE-P26 INTERGENIC REGION	ORGYIA PSEUDOTSUGATA ARJUTICAPSID POLYHEDROSIS VIRUS	47-82	185-199					
PPIV2_ADE67	MATURATION PROTEIN	HUMAN ADENOVIRUS TYPE 7	414-448						
PPIV4_ADE03	PROTEIN V1 PRECURSOR	HUMAN ADENOVIRUS TYPE 3	37-71						
PPIV4_ADE05	PROTEIN V1 PRECURSOR	HUMAN ADENOVIRUS TYPE 5	37-71						
PPOL1_BATMO	GENOME POLYPROTEIN 1	BARLEY YELLOW MOSAIC VIRUS (GERMAN ISOLATE)	1329-1363	1743-1777	1957-1991	1185-1299	1329-1366	2109-2132	2368-2404
PPOL1_BAYMJ	GENOME POLYPROTEIN 1	BARLEY YELLOW MOSAIC VIRUS (JAPANESE STRAIN J1-1)	1329-1363	1671-1705	1743-1777	957-994	1185-1299	2132-2164	2107-2150 2166-2202
PPOL1_OCMV	RNA1 POLYPROTEIN	HUNGARIAN GRAPEVINE CHEROKE MOSAIC VIRUS	1210-1261	1615-1656	1730-1773	1177-1215			
PPOL1_OFLV	RNA1 POLYPROTEIN	GRAPEVINE FANLEAF VIRUS	1170-1211	1480-1519	1636-1677	691-735	1157-1196	1178-1412	1906-1943
PPOL1_TBAYS	RNA1 POLYPROTEIN	TOMATO BLACK RING VIRUS (STRAIN S)	1321-1370	1935-1977					
PPOL1_TSJYA	RNA1 POLYPROTEIN	TOMATO RINGSPOT VIRUS (ISOLATE RASPBERRY)	1161-1206						
PPOL2_BATMO	GENOME POLYPROTEIN 2	BARLEY YELLOW MOSAIC VIRUS (GERMAN ISOLATE)	1240-1281	1649-1732	1739-1773	1187-1218			

PCGENE	ALLMOTIS	All Viruses (no bacteriophages)								
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PPOL3_BAYMJ	GENOME POLYPROTEIN 2	BARLEY YELLOW MOSAIC VIRUS (JAPANESE STRAIN II-1)	669-732	739-773	787-838					
PPOL3_GFLV	RNA3 POLYPROTEIN	GRAPEVINE FANLEAF VIRUS	365-406	542-602						
PPOL3_TBRVS	RNA3 POLYPROTEIN	TOMATO BLACK RING VIRUS (STRAIN S)	4-38							
PPOL3_TRSVR	RNA3 POLYPROTEIN	TOMATO RINGSPOT VIRUS (ISOLATE RASPBERRY)	158-206	334-368						
PPOLG_BOVEV	GENOME POLYPROTEIN	BOVINE ENTEROVIRUS (STRAIN VG-5-27)	849-886	1008-1064	1382-1416	1458-1507	1576-1617			
PPOLG_BVDVN	GENOME POLYPROTEIN	BOVINE VIRAL DIARRHEA VIRUS (ISOLATE NADL)	244-289	446-491	629-663	1033-1074	1303-1344	1392-1443	1869-1910	2226-2260
PPOLG_BVDVS	GENOME POLYPROTEIN	BOVINE VIRAL DIARRHEA VIRUS (STRAIN SD-1)	245-289	446-491	629-663	1033-1074	1303-1344	1392-1443	1779-1820	2136-2170
PPOLG_BYMV	GENOME POLYPROTEIN	BEAN YELLOW MOSAIC VIRUS	96-130							
PPOLG_COXA2	GENOME POLYPROTEIN	COXSACKIEVIRUS A21 (STRAIN COE)	9-43	562-596	664-698	1045-1100	1498-1546	1607-1648	1805-1839	1901-1946
PPOLG_COXA9	GENOME POLYPROTEIN	COXSACKIEVIRUS A9 (STRAIN GRIGGS)	15-49	1040-1086	1895-1940					
PPOLG_COXB1	GENOME POLYPROTEIN	COXSACKIEVIRUS B1	15-49	1021-1067	1876-1921					
PPOLG_COXB3	GENOME POLYPROTEIN	COXSACKIEVIRUS B3	15-49	1024-1070	1879-1924					
PPOLG_COXB4	GENOME POLYPROTEIN	COXSACKIEVIRUS B4	15-49	642-681	1022-1068	1877-1922				
PPOLG_COXB5	GENOME POLYPROTEIN	COXSACKIEVIRUS B5	15-49	1024-1070	1879-1924					
PPOLG_CYVV	GENOME POLYPROTEIN	CLOVER YELLOW VEIN VIRUS	120-154							
PPOLG_DEN1B	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 1 (STRAIN 836-1)	74-108							
PPOLG_DEN1A	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 1 (STRAIN AUS 82-80)	74-108							
PPOLG_DEN1C	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 1 (STRAIN CV1636/77)	74-108							
PPOLG_DEN1S	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 1 (STRAIN SINGAPORE S275/90)	74-108	832-873	960-994	1142-1179	1386-1420	1614-1648	2518-2554	2946-3016
PPOLG_DEN1W	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 1 (STRAIN WESTERN PACIFIC)	74-108	833-874	961-995	1143-1180				
PPOLG_DEN21	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (ISOLATE MALAYSIA M1)	448-492							
PPOLG_DEN22	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (ISOLATE MALAYSIA M2)	448-495							
PPOLG_DEN26	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN 16681)	74-108	728-777	961-995	1146-1180	1246-1280	1418-1452	1615-1649	2517-2551
PPOLG_DEN27	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN 16681-PDK53)	74-108	728-777	961-995	1146-1180	1246-1280	1418-1452	1615-1649	2485-2551
PPOLG_DEN2D	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN D2-04)	728-777							
PPOLG_DEN2H	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN TH-36)	497-546							
PPOLG_DEN2J	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN JAMAICA)	74-108	728-777	961-995	1146-1180	1246-1280	1418-1452	1615-1649	2517-2551
PPOLG_DEN2N	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN NEW GUINEA C)	213-247	398-432						
PPOLG_DEN2P	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN PR159/S1)	74-108	728-777	832-875	961-995	1146-1180	1246-1280	1418-1452	1615-1649
PPOLG_DEN2T	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN TONGA 1974)	448-497	552-595	681-715	866-900	966-1000	1205-1239		
PPOLG_DEN2U	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN PUO-218)	614-663							
PPOLG_DEN3	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 3	830-872	959-993	1385-1419	2224-2258	2480-2521	2704-2738	2940-2978	2980-3014
PPOLG_DEN4	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 4	957-993	1380-1414	2514-2555	2701-2735	2941-2975	2977-3011		
PPOLG_ECI10	GENOME POLYPROTEIN	ECHOVIRUS 11 (STRAIN GREGORY)	213-259	1079-1113						
PPOLG_EMCV	GENOME POLYPROTEIN	ENCEPHALOMYOCARDITIS VIRUS	1074-1115	1472-1518	1522-1570	1665-1706	1789-1823			
PPOLG_EMCVB	GENOME POLYPROTEIN	ENCEPHALOMYOCARDITIS VIRUS (STRAIN EMC-B NONDIABETO	145-179	1076-1117	1474-1520	1524-1572	1667-1708			
PPOLG_EMCVD	GENOME POLYPROTEIN	ENCEPHALOMYOCARDITIS VIRUS (STRAIN EMC-D DIABETOGEN	145-179	1076-1117	1474-1520	1524-1572	1667-1708			
PPOLG_ENMG3	GENOME POLYPROTEIN	MENGO ENCEPHALOMYOCARDITIS VIRUS (STRAIN 37A)	145-179							
PPOLG_ENMGO	GENOME POLYPROTEIN	MENGO ENCEPHALOMYOCARDITIS VIRUS	78-112							
PPOLG_FMDV1	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN A10-61)	221-255	294-328	578-612	1103-1153	1493-1528	2165-2200		
PPOLG_FMDVA	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN A12)	220-254	293-327	577-611	1103-1164	1493-1528	2164-2199		
PPOLG_FMDVO	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAINS OIK AND OIBFS)	221-255	1103-1153	1493-1528	2164-2199				
PPOLG_FMDVS	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN C1-SANTA PAU [C-S	87-128	693-728						
PPOLG_FMDVT	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN C1)	221-255	283-317	577-611					
PPOLG_HCV1	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE 1)	364-398							
PPOLG_HCVA	GENOME POLYPROTEIN	HOG CHOLERA VIRUS (STRAIN ALFORT)	440-493	626-660	695-729	1033-1070	1190-1235	1307-1343	1779-1820	2136-2170
			2466-2500	2525-2559	2667-2708	3057-3098	3152-3195	3406-3440		
PPOLG_HCVB	GENOME POLYPROTEIN	HOG CHOLERA VIRUS (STRAIN BRESCIA)	440-493	626-660	695-729	1033-1070	1173-1235	1779-1820	2136-2170	2388-2436
PPOLG_HCVBK			2466-2500	2525-2559	2667-2708	3057-3098	3152-3195	3406-3440	3521-3562	
PPOLG_HCVE0	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE BK)	357-398	2328-2363						
PPOLG_HCVH	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE EC10)	65-99							

PCGENE	ALLMOTIFS	All Viruses (no bacteriophages)								
FILENAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PPOLO_HCVN4	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE H)	364-398							
PPOLO_HCVN7	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HCV-476)	364-398							
PPOLO_HCVH8	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HCT27)	336-370							
PPOLO_HCVHK	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HCT18)	248-282							
PPOLO_HCV12	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HCV-KT)	337-398							
PPOLO_HCV15	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HC-J2)	337-398							
PPOLO_HCV16	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HC-J5)	364-398							
PPOLO_HCV17	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HC-J6)	364-401	1716-1750	2082-2116					
PPOLO_HCV18	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HC-J7)	364-398							
PPOLO_HCV1A	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HC-J8)	364-398	1716-1750	2082-2116	2448-2502	2538-2572			
PPOLO_HCVJT	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE JAPANESE)	337-403	2331-2365						
PPOLO_HCVTW	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HC-JT)	337-391	2331-2365						
PPOLO_HPAV1	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE TAIWAN)	337-398	2328-2365	2444-2503					
PPOLO_HPAV4	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN 24A)	2-43	101-135	201-237	870-904	1021-1055	1117-1151		
PPOLO_HPAV5	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN 49C)	2-43	101-135	201-237	870-904	1021-1055	1117-1151		
PPOLO_HPAVC	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN 18F)	2-43	101-135	201-237	870-904	1021-1055	1117-1151		
PPOLO_HPAVG	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN CR326)	2-43	101-135	203-237					
PPOLO_HPAVH	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN GA/16)	80-114	182-216						
PPOLO_HPAVL	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN HAS-175)	2-43	101-135	203-237	870-904	1021-1055	1103-1151		
PPOLO_HPAVM	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN LA)	2-43	101-135	202-237	870-904	1021-1055	1103-1151		
PPOLO_HPAVS	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN MBB)	2-43	101-135	203-237	870-904	1021-1055	1101-1138		
PPOLO_HPAVT	GENOME POLYPROTEIN	SIMIAN HEPATITIS A VIRUS (STRAIN AGM-27)	6-47	105-139	207-241	849-906	1023-1059	1115-1155	1158-1198	
PPOLO_HRV14	GENOME POLYPROTEIN	SIMIAN HEPATITIS A VIRUS (STRAIN GY-145)	2-43	101-135	203-237					
PPOLO_HRV1A	GENOME POLYPROTEIN	HUMAN RHINOVIRUS 14 (HRV-14)	1020-1054	1393-1427	1479-1513	1877-1920				
PPOLO_HRV1B	GENOME POLYPROTEIN	HUMAN RHINOVIRUS 1A (HRV-1A)	362-396							
PPOLO_HRV2	GENOME POLYPROTEIN	HUMAN RHINOVIRUS 1B (HRV-1B)	387-421	863-904	1133-1168					
PPOLO_HRV89	GENOME POLYPROTEIN	HUMAN RHINOVIRUS 2 (HRV-2)	856-897	1136-1169	1552-1593					
PPOLO_HUEV7	GENOME POLYPROTEIN	HUMAN RHINOVIRUS 89 (HRV-89)	1566-1607							
PPOLO_JEDVC	GENOME POLYPROTEIN	HUMAN ENTEROVIRUS 70 (STRAIN J670/71)	359-397	876-917	1032-1068	1403-1441	1896-1934			
PPOLO_JAEV1	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN OH)	134-168	250-291	475-524					
PPOLO_JAEV3	GENOME POLYPROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN SA-14)	74-122	211-256	539-576	980-1014	1409-1450	2463-2497	2739-2777	2782-2823
			3322-3359	3387-3428						
PPOLO_JAEV1	GENOME POLYPROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN SA(V))	74-122	211-256	539-576	980-1014	1409-1450	2463-2497	2739-2777	2782-2823
			3322-3359	3387-3428						
PPOLO_JAEVN	GENOME POLYPROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN JAOA3982)	74-128	211-256	539-576	980-1014	1409-1450	2463-2497	2739-2777	2782-2823
			3322-3359	3387-3428						
PPOLO_KUNJM	GENOME POLYPROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN NAKAYAMA)	7-48	138-183	467-504	908-942	1337-1378			
PPOLO_LANYT	GENOME POLYPROTEIN	KUNJIN VIRUS (STRAIN MRM61C)	74-108	207-251	851-883	2464-2498	2528-2579	2740-2778	2925-2959	3389-3423
PPOLO_LANYY	GENOME POLYPROTEIN	LANGAT VIRUS (STRAIN TP21)	68-102	431-465	963-996	1431-1472	1933-1966	2536-2591	2967-3001	3003-3037
			3102-3145							
PPOLO_LIV	GENOME POLYPROTEIN	LANGAT VIRUS (STRAIN YELANTSEV)	68-102	431-465	2048-2087	2630-2689	3036-3095	3290-3341		
PPOLO_LIVSB	GENOME POLYPROTEIN	LOUPING ILL VIRUS (LI)	68-123	231-272	431-465					
PPOLO_MCFA	GENOME POLYPROTEIN	LOUPING ILL VIRUS (STRAIN SB 326)	151-185							
PPOLO_MVEV	GENOME POLYPROTEIN	MOSQUITO CELL FUSING AGENT (CFA FLAVIVIRUS)	80-114	908-942	2048-2087	2630-2689	3036-3095	3290-3341		
PPOLO_ONV	GENOME POLYPROTEIN	MURRAY VALLEY ENCEPHALITIS VIRUS	87-115	209-253	853-887	979-1013	1408-1449			
PPOLO_PEMVC	GENOME POLYPROTEIN	ORNITHOGALUM MOSAIC VIRUS	481-515	946-984	1672-1706					
PPOLO_POLIM	GENOME POLYPROTEIN	PEPPER MOTTLE VIRUS (CALIFORNIA ISOLATE)	55-100	207-248	377-411	704-738	827-862	877-947	1021-1055	1167-1201
			1488-1529	1787-1821	1948-1982	2502-2536	3238-3310	3805-3839	3003-3037	
PPOLO_POLIS	GENOME POLYPROTEIN	POLIOVIRUS TYPE 1 (STRAIN MAHONEY)	9-43	1046-1101	1414-1448	1506-1548	1806-1840	1902-1947		
PPOLO_POLIL	GENOME POLYPROTEIN	POLIOVIRUS TYPE 1 (STRAIN SABIN)	9-43	899-933	1047-1102	1415-1449	1501-1549	1810-1851	1808-1842	1904-1949
PPOLO_POLIW	GENOME POLYPROTEIN	POLIOVIRUS TYPE 2 (STRAIN LANSING)	9-43	897-931	1045-1100	1413-1447	1502-1547	1808-1849	1806-1840	1902-1947

PCGENE	ALLMOTIS	All Viruses (no bacteriophages)								
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PPOLG_POL32	GENOME POLYPROTEIN	POLIOVIRUS TYPE 2 (STRAIN W-2)	9-43	897-831	1045-1100	1413-1447	1502-1547	1608-1649	1806-1840	1902-1947
PPOLG_POL3L	GENOME POLYPROTEIN	POLIOVIRUS TYPE 3 (STRAIN 23127)	9-43	896-930	1044-1098	1412-1446	1498-1546	1607-1648	1805-1839	1901-1946
PPOLG_PPVD	GENOME POLYPROTEIN	POLIOVIRUS TYPE 3 (STRAINS P3/LEON/37 AND P3/LEON 12A[1]B)	9-43	896-930	1044-1099	1412-1446	1498-1546	1607-1648	1805-1839	1901-1946
PPOLG_PPVEA	GENOME POLYPROTEIN	PLUM POX POTYVIRUS (STRAIN D)	164-208	441-503	728-769	813-867	921-955	1741-1782		
PPOLG_PPVNA	GENOME POLYPROTEIN	PLUM POX POTYVIRUS (STRAIN EL AMAR)	116-157	784-818	1146-1197					
PPOLG_PPVRA	GENOME POLYPROTEIN	PLUM POX POTYVIRUS (ISOLATE NAT)	164-208	403-437	440-502	727-768	814-873	920-954	1740-1781	
PPOLG_PRSVH	GENOME POLYPROTEIN	PLUM POX POTYVIRUS (STRAIN RANKOVIC)	164-208	403-437	440-502	727-768	814-866	920-954	1740-1781	
PPOLG_PRSVP	GENOME POLYPROTEIN	PAPAYA RINGSPOT VIRUS (STRAIN P / MUTANT HA)	68-102	434-468						
PPOLG_PRSVW	GENOME POLYPROTEIN	PAPAYA RINGSPOT VIRUS (STRAIN P / MUTANT HA 5-1)	325-359							
PPOLG_PSRMV	GENOME POLYPROTEIN	PAPAYA RINGSPOT VIRUS (STRAIN W)	325-359							
PPOLG_PVYC	GENOME POLYPROTEIN	PEA SEED-BORNE MOSAIC [illegible] (STRAIN DPD1)	253-315	355-389	529-589	935-976	984-1018	1080-1177	1588-1627	1808-1860
			1971-2015	2379-2413	2712-2746	2870-2907				
PPOLG_PVYHU	GENOME POLYPROTEIN	POTATO VIRUS Y (STRAIN C)	131-196	701-735	802-856					
PPOLG_PVYN	GENOME POLYPROTEIN	POTATO VIRUS Y (STRAIN HUNGARIAN)	144-181	701-735	802-863	901-949	1401-1441	1492-1526	1728-1772	1777-1818
			2272-2306							
PPOLG_PVYO	GENOME POLYPROTEIN	POTATO VIRUS Y (STRAIN N)	140-196	211-245	701-735	802-863	1401-1441	1492-1526	1728-1772	1777-1818
			1929-1970							
PPOLG_PVYSE	GENOME POLYPROTEIN	POTATO VIRUS Y (STRAIN O)	140-196	211-245	701-735	802-856				
PPOLG_PWVTB	GENOME POLYPROTEIN	PASSIONFRUIT WOODINESS VIRUS (STRAIN SEVERE)	203-237							
PPOLG_PYFVI	GENOME POLYPROTEIN	PASSIONFRUIT WOODINESS VIRUS (STRAIN TIP BRIGHT)	203-237							
PPOLG_STEVM	GENOME POLYPROTEIN	PARSNIP YELLOW FLECK VIRUS (ISOLATE P-121)	194-228	1111-1172	1379-1413	1858-1899	1950-1991	2703-2737		
PPOLG_SVDVH	GENOME POLYPROTEIN	ST. LOUIS ENCEPHALITIS VIRUS (STRAIN MSI-7)	106-143	673-707	739-773	975-1009	1404-1438			
PPOLG_SVDVU	GENOME POLYPROTEIN	SWINE VESICULAR DISEASE VIRUS (STRAIN H/J '76)	15-49	1024-1070	1779-1813	1890-1924				
PPOLG_TBEVS	GENOME POLYPROTEIN	SWINE VESICULAR DISEASE VIRUS (STRAIN UKG/27/72)	15-49	1024-1070	1890-1924					
PPOLG_TBEVW	GENOME POLYPROTEIN	TICK-BORNE ENCEPHALITIS VIRUS (STRAIN SOFJIN)	68-140	231-272	431-465	1158-1192	1431-1472	1929-1966	2182-2216	2535-2590
			2965-2999	3051-3092	3100-3143					
PPOLG_TEV	GENOME POLYPROTEIN	TICK-BORNE ENCEPHALITIS VIRUS (WESTERN SUBTYPE)	68-140	231-272	431-465	1158-1192	1431-1492	1932-1966	2516-2591	2967-3001
			3003-3037	3053-3094	3102-3143					
PPOLG_TMEVB	THEILER'S MURINE ENCEPHALOMYELITIS VIRUS (S	TOBACCO ETCH VIRUS	73-124	166-222	540-584	720-782	828-925	1148-1192	1416-1460	1494-1535
			1668-1702	1747-1781	1792-1826	2395-2434	2787-2821			
PPOLG_TMEVD	GENOME POLYPROTEIN	THEILER'S MURINE ENCEPHALOMYELITIS VIRUS (STRAIN BEAN	1306-1340	1483-1518	1601-1635					
PPOLG_TMEVG	GENOME POLYPROTEIN	THEILER'S MURINE ENCEPHALOMYELITIS VIRUS (STRAIN DA)	1304-1338	1481-1516	1599-1663					
PPOLG_TUMV	GENOME POLYPROTEIN	THEILER'S MURINE ENCEPHALOMYELITIS VIRUS (STRAIN GDVII)	1306-1340	1483-1518	1601-1635					
PPOLG_TVMV	GENOME POLYPROTEIN	TURNIP MOSAIC VIRUS	216-259	314-362	494-528	768-839	1443-1477			
PPOLG_WMV2	GENOME POLYPROTEIN	TOBACCO VEIN MOTTLING VIRUS	34-68	408-449	667-704	761-813	851-885	969-1017	1031-1072	1643-1677
			1686-1725	2316-2374	2701-2749	2814-2848				
PPOLG_WNV	GENOME POLYPROTEIN	WATERMELON MOSAIC VIRUS II	68-105	202-236						
PPOLG_YEFV1	GENOME POLYPROTEIN	WEST NILE VIRUS	74-108	207-251	847-881	973-1007	1413-1447	2461-2495	2525-2576	2737-2775
			3320-3357	3385-3426						
PPOLG_YEFV2	GENOME POLYPROTEIN	YELLOW FEVER VIRUS (STRAIN 17D)	418-452	525-563	728-768	1388-1444	2231-2276	2477-2565	2958-2996	3097-3143
PPOLG_YEFV3	GENOME POLYPROTEIN	YELLOW FEVER VIRUS (STRAIN PASTEUR 17D-204)	418-452	525-563	728-768	1388-1444	2231-2276	2477-2565	2958-2996	3097-3143
PPOLN_POL1M	GENOME POLYPROTEIN	YELLOW FEVER VIRUS (STRAIN 1899M1)	75-116	418-452	525-563	728-768				
PPOLN_EEVVT	GENOME POLYPROTEIN	POLIOVIRUS TYPE 1 (STRAIN MAHONEY)	9-43	1047-1102	1415-1449	1501-1549	1610-1651	1808-1842	1904-1949	
PPOLN_FCVC6	NONSTRUCTURAL POLYPROTEIN	VENEZUELAN EQUINE ENCEPHALITIS VIRUS (STRAIN TRINIDAD	345-382	898-932	1945-1979					
PPOLN_FCVF9	NON-STRUCTURAL POLYPROTEIN	FELINE CALICIVIRUS (STRAIN CFI/68 FIV)	510-544							
PPOLN_HEVBU	NON-STRUCTURAL POLYPROTEIN	FELINE CALICIVIRUS (STRAIN F9)	4-45	369-410	986-1020	1023-1061				
PPOLN_HEVME	NON-STRUCTURAL POLYPROTEIN	HEPATITIS E VIRUS (STRAIN BURMA)	338-379	1139-1177						
PPOLN_HEVMY	NON-STRUCTURAL POLYPROTEIN	HEPATITIS E VIRUS (STRAIN MEXICO)	338-379							
PPOLN_HEVPA	NON-STRUCTURAL POLYPROTEIN	HEPATITIS E VIRUS (STRAIN MYANMAR)	338-379	1139-1184						
PPOLN_MIDDV	NON-STRUCTURAL POLYPROTEIN	HEPATITIS E VIRUS (STRAIN PAKISTAN)	337-378	1138-1176						
PPOLN_ONNVG	NONSTRUCTURAL POLYPROTEIN	MIDDELBURG VIRUS	922-977							

PCGENE	ALLMOTIS	All Viruses (no bacteriophage)							
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 1	AREA 2	AREA 1	AREA 1	AREA 2	AREA 3
PPOLN_RNDV	NONSTRUCTURAL POLYPROTEIN	ONYONG-NYONG VIRUS (STRAIN GULU)	899-933	1943-1986	2444-2502				
PPOLN_RVDV	NONSTRUCTURAL POLYPROTEIN	RABBIT HEMORRHAGIC DISEASE VIRUS	188-234	306-347	409-457	1657-1716			
PPOLN_RVVN	NON-STRUCTURAL POLYPROTEIN	RABBIT HEMORRHAGIC DISEASE VIRUS	895-939	1928-1962	2414-2467				
PPOLN_RVVT	NONSTRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN NB5092)	1597-631	1083-1136					
PPOLN_RUBVT	NONSTRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN T48)	1506-1540	1551-1585	1730-1767	1862-1896			
PPOLN_RPV	NONSTRUCTURAL POLYPROTEIN	RUBELLA VIRUS (STRAIN THERIEN)	1004-1128	2338-2392					
PPOLN_SINDO	NONSTRUCTURAL POLYPROTEIN	SEMLIKI FOREST VIRUS	919-971	1491-1525	1861-1896	2444-2478			
PPOLN_SINDV	NONSTRUCTURAL POLYPROTEIN	SINDBIS VIRUS (SUBTYPE OCKELBO / STRAIN EDSBYN 82-5)	1491-1525	1959-1994	2442-2476				
PPOLN_STMV	NONSTRUCTURAL POLYPROTEIN	SINDBIS VIRUS (STRAIN HRSP)	899-933	1125-1161					
PPOLS_EEEV	RNA REPLICASE POLYPROTEIN	EGGPLANT MOSAIC VIRUS	372-406	914-951					
PPOLS_EEVD	STRUCTURAL POLYPROTEIN	EASTERN EQUINE ENCEPHALITIS VIRUS	377-407	915-952					
PPOLS_EEVN	STRUCTURAL POLYPROTEIN	EASTERN EQUINE ENCEPHALITIS VIRUS (STRAIN VA3)(TEN BRO							
PPOLS_EEVVT	STRUCTURAL POLYPROTEIN	VENEZUELAN EQUINE ENCEPHALITIS VIRUS (STRAIN TC-83)	1216-1250						
PPOLS_EEVVT	STRUCTURAL POLYPROTEIN	VENEZUELAN EQUINE ENCEPHALITIS VIRUS (STRAIN TRINIDAD	1216-1250						
PPOLS_IBDVS	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN 52/70)	134-168	231-286	470-523				
PPOLS_IBDVA	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN AUSTRAL	134-168	231-286	470-523				
PPOLS_IBDVC	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN CU-1)	134-168	231-286	470-523				
PPOLS_IBDVE	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN E)	134-168	231-286	304-340				
PPOLS_IBDVP	NONSTRUCTURAL PROTEIN VP4	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN PBG-98)	115-149	212-267	451-504				
PPOLS_IBDVS	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN STC)	134-168	249-283	470-523				
PPOLS_DNVI	STRUCTURAL POLYPROTEIN	INFECTIOUS PANCREATIC NECROSIS VIRUS (SEROTYPE JASPER)	69-103	723-785					
PPOLS_DNVN	STRUCTURAL POLYPROTEIN	INFECTIOUS PANCREATIC NECROSIS VIRUS (STRAIN N1)	716-786						
PPOLS_ONNVG	STRUCTURAL POLYPROTEIN	ONYONG-NYONG VIRUS (STRAIN GULU)	1204-1238						
PPOLS_RAV2	STRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN 211970)	135-69						
PPOLS_RAVN	STRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN NB5092)	369-403	935-973					
PPOLS_RAVT	STRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN T48)	919-973						
PPOLS_RUBVH	STRUCTURAL POLYPROTEIN	RUBELLA VIRUS (VACCINE STRAIN HPV77)	999-1036						
PPOLS_RUBVR	STRUCTURAL POLYPROTEIN	RUBELLA VIRUS (VACCINE STRAIN RA27/3)	999-1036						
PPOLS_RUBVT	STRUCTURAL POLYPROTEIN	RUBELLA VIRUS (STRAIN THERIEN)	999-1036						
PPOLS_SINDO	STRUCTURAL POLYPROTEIN	SINDBIS VIRUS (SUBTYPE OCKELBO / STRAIN EDSBYN 82-5)	362-396						
PPOLS_SINDV	STRUCTURAL POLYPROTEIN	SINDBIS VIRUS (STRAINS HRSP AND HRLP)	362-396						
PPOLS_SINDW	STRUCTURAL POLYPROTEIN	SINDBIS VIRUS (WILD TYPE SB DERIVED FROM STRAIN AR339)	34-68						
PPOLS_WEEV	STRUCTURAL POLYPROTEIN	WESTERN EQUINE ENCEPHALITIS VIRUS	913-947						
PPOL_BAEVM	POL POLYPROTEIN	BABOON ENDOGENOUS VIRUS (STRAIN M7)	42-80	676-741	794-832	1001-1042			
PPOL_BLVAU	POL POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AUSTRALIAN ISOLATE)	623-673						
PPOL_BLVJ	POL POLYPROTEIN	BOVINE LEUKEMIA VIRUS (JAPANESE ISOLATE BLV-1)	623-673						
PPOL_CAEVC	POL POLYPROTEIN	CAPRINE ARTHRITIS ENCEPHALITIS VIRUS (STRAIN COHN)	879-934						
PPOL_CAMVD	ENZYMATIC POLYPROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D4)	177-211						
PPOL_COYMV	PUTATIVE POLYPROTEIN	COMMELINA YELLOW MOTTLE VIRUS	87-121	333-367	447-498	838-876	896-930	1310-1351	
PPOL_EIAVC	POL POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE 1369)	511-566	1022-1056					
PPOL_EIAVY	POL POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE CL22)	511-566	1022-1056					
PPOL_FENVI	POL POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (ISOLATE WYOMING)	513-565	1021-1055					
PPOL_FIVPE	POL POLYPROTEIN	FELINE ENDOGENOUS VIRUS ECE1	533-600	623-659	858-899				
PPOL_FIVSD	POL POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE PETALUMA)	428-473	606-663					
PPOL_FIVT2	POL POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE SAN DIEGO)	428-473	606-662					
PPOL_FIVTD	POL POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE TM2)	428-472	595-643					
PPOL_FMVD	POL POLYPROTEIN	FIGWORT MOSAIC VIRUS (STRAIN DXS)	403-457						
PPOL_FOAMV	ENZYMATIC POLYPROTEIN	HUMAN SPUMARETROVIRUS (FOAMY VIRUS)	140-174	217-256	285-326				
PPOL_GALV	POL POLYPROTEIN	GIBBON APE LEUKEMIA VIRUS	528-562	673-740					
PPOL_HTLIA	POL POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (STRAIN ATK)	676-711						
PPOL_HTLIC	POL POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (CARIBBEAN ISOLATE	676-711						
PPOL_HVIAJ	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ARV2/SF2 ISOLATE	501-537	606-644					
PPOL_HVIB1	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH10 ISOLATE)	513-549	639-676					

PCGENE	ALLMOTIF	All Viruses (no bacteriophage)							
TILE NAME	PROTEIN	VIRUS	AREA1	AREA1	AREA1	AREA1	AREA2	AREA1	
PPOL_HV1BR	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH5 ISOLATE)	511-549	618-676					
PPOL_HV1EL	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRU ISOLATE)	513-549	618-676					
PPOL_HV1HB	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE)	500-536	626-683					
PPOL_HV1JR	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK) ISOLATE)	501-537	606-664					
PPOL_HV1MA	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MCSF ISOLATE)	505-541	610-668					
PPOL_HV1MN	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MAL ISOLATE)	476-516	601-663					
PPOL_HV1N5	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NY5 ISOLATE)	504-540	609-667					
PPOL_HV1ND	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NEW YORK-5 ISOL	501-537	627-664					
PPOL_HV1OY	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)	500-536	626-683					
PPOL_HV1PV	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (OYI ISOLATE)	501-537	606-664					
PPOL_HV1RM	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	513-549	691-676					
PPOL_HV1U4	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (RF/HAT ISOLATE)	500-536	603-663					
PPOL_HV1Z2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (STRAIN UGANDAN	500-536	601-663					
PPOL_HV2BE	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (2/2/CDC-334 ISOLA	500-536	626-683					
PPOL_HV2CA	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE BEN)	49-83	484-582	653-687	817-851			
PPOL_HV2D1	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE CAM2)	536-590	644-582	632-666				
PPOL_HV2D2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D194)	502-600	671-705					
PPOL_HV2D1	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D205?)	376-410	484-526	529-577	653-687			
PPOL_HV2N2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE GHANA-1	464-562	633-667					
PPOL_HV2RO	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NIH-Z)	44-78	336-390	464-539	633-667			
PPOL_HV2S3	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD)	337-391	465-563	634-668				
PPOL_HV2ST	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE SBL1SY)	46-80	473-562	633-667				
PPOL_SPHA	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST)	484-518	522-577	653-687				
PPOL_SRV	PUTATIVE POL POLYPROTEIN	HAMSTER INTRACISTERNAL A-PARTICLE	462-503						
PPOL_MLVAK	POL POLYPROTEIN	SHEEP PULMONARY ADENOMATOSIS VIRUS	190-211						
PPOL_MLVAV	POL POLYPROTEIN	AKR MURINE LEUKEMIA VIRUS	325-392						
PPOL_MLVFS	POL POLYPROTEIN	AKV MURINE LEUKEMIA VIRUS	677-744						
PPOL_MLVFF	POL POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE 57)	682-749						
PPOL_MLVMO	POL POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE FB29)	682-749						
PPOL_MLVRD	POL POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE FVC-211)	682-749						
PPOL_MLVRK	POL POLYPROTEIN	MOLONEY MURINE LEUKEMIA VIRUS	677-744						
PPOL_MPMV	POL POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS	677-744						
PPOL_OMVVS	POL POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS (STRAIN KAPLAN)	62-129						
PPOL_RSVP	POL POLYPROTEIN	SIMIAN MASON-PFIZER VIRUS	478-504	578-613					
PPOL_RTBV	POL POLYPROTEIN	OVINE LENTIVIRUS (STRAIN SA-OMVV)	478-503	535-910					
PPOL_RTBVP	POLYPROTEIN	ROUS SARCOMA VIRUS (STRAIN PRAGUE C)	846-884						
PPOL_SFV1	POLYPROTEIN	RICE TUNGRO BACILLIFORM VIRUS	7-44	39-96	101-135	176-216	325-362	433-474	1005-1039
PPOL_SFVPL	POL POLYPROTEIN	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES)	7-44	39-96	101-135	176-216	325-362	433-474	1005-1039
PPOL_SIVAI	POL POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 1)	349-383	427-464	494-535				
PPOL_SIVAL	POL POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 3 / STRAIN LK3)	128-165	429-467	496-530				
PPOL_SIVAO	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM155 ISOLATE)	351-385	617-658	737-771	938-979			
PPOL_SIVAJ	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM2166 ISOLATE)	45-86						
PPOL_SIVAT	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM3 ISOLATE)	477-516	642-683	742-783				
PPOL_SIVCZ	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM / CLONE GR	175-209	476-515	641-700	942-983	1020-1054		
PPOL_SIVGB	POL POLYPROTEIN	CHIMPANZEE IMMUNODEFICIENCY VIRUS (SIVCPZ)	637-691	737-796					
PPOL_SIVM1	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE GB1)	527-561	626-688					
PPOL_SIVMK	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (MM142-83 ISOLATE)	9-57	446-483	629-673	793-827	913-946		
PPOL_SIVS4	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (K6W ISOLATE)	485-519	654-688					
PPOL_SIVSP	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PBJA/C1) ISOLATE)	485-519	654-688					
PPOL_SOCMV	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PBJA/C1) ISOLATE)	448-482	617-651					
PPOL_SRV1	ENZYMATIC POLYPROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	451-485	630-654					
			247-295	372-416					

PCODE	ALLMOTIF	All Viruses (no bacteriophages)	AREA1	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7
TITLE NAME	PROTEIN	VIRUS								
PPOL_VLSV	POL POLYPROTEIN	SIMIAN RETROVIRUS SRV-1	478-504	578-613						
PPOL_VLVI	POL POLYPROTEIN	VISNA LENTIVIRUS (STRAIN 1514)	489-524	874-929						
PPOL_VLVI	POL POLYPROTEIN	VISNA LENTIVIRUS (STRAIN 1514 / CLONE LV1-1K51)	489-524	874-929						
PPOL_VLV2	POL POLYPROTEIN	VISNA LENTIVIRUS (STRAIN 1514 / CLONE LV1-1K52)	489-524	874-929						
PPPI3_HCMVA	POL POLYPROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	116-150	187-221						
PPR17_KMTVO	LARGE STRUCTURAL PHOSPHOPROTEIN PP150	MOUSE MAMMARY TUMOR VIRUS (STRAIN BR6)	152-200							
PPR17_KMTVC	PROTEIN PR77	MOUSE MAMMARY TUMOR VIRUS (STRAIN C3H)	20-79							
PPR17_KMTVG	PROTEIN PR77	MOUSE MAMMARY TUMOR VIRUS (STRAIN GR)	61-93	142-201						
PPR17L_KMTVO	PROTEIN PR77	MOUSE MAMMARY TUMOR VIRUS (STRAIN GR)	143-204	270-311						
PPR17R_KMTVO	PROTEIN PR77	MOUSE MAMMARY TUMOR VIRUS (STRAIN GR)	141-200	266-307						
PPYHD_CPVBM	POLYHEDRIN PRECURSOR	BOMBYX MORI CYTOPLASMIC POLYHEDROSIS VIRUS	13-45							
PPYHD_NPVAC	POLYHEDRIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	13-47							
PPYHD_NPVAS	POLYHEDRIN	AGROTIS SEGETUM NUCLEAR POLYHEDROSIS VIRUS	14-48							
PPYHD_NPVBM	POLYHEDRIN	BOMBYX MORI NUCLEAR POLYHEDROSIS VIRUS	13-34							
PPYHD_NPVBS	POLYHEDRIN	BUZURA SUPPRESSARIA NUCLEAR POLYHEDROSIS VIRUS	14-48							
PPYHD_NPVLD	POLYHEDRIN	L'YMANTRIA DISPAR MULTICAPSID NUCLEAR POLYHEDROSIS V	14-48							
PPYHD_NPVMB	POLYHEDRIN	MAMESTRA BRASSICAE NUCLEAR POLYHEDROSIS VIRUS	14-48							
PPYHD_NPVOP	POLYHEDRIN	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	13-47							
PPYHD_NPVOS	POLYHEDRIN	ORGYIA PSEUDOTSUGATA SINGLE CAPSID NUCLEAR POLYHED	14-48							
PPYHD_NPVSE	POLYHEDRIN	PANOLIS FLAMMEA MULTIPLE NUCLEOCAPSID POLYHEDROSIS	14-48							
PPYHD_NPVSF	POLYHEDRIN	SPODOPTERA EXIGUA NUCLEAR POLYHEDROSIS VIRUS (STRAIN	14-48							
PPYHD_NPVSL	POLYHEDRIN	SPODOPTERA FRUGIPERDA NUCLEAR POLYHEDROSIS VIRUS	14-48							
PPYHD_NPVSL	POLYHEDRIN	SPODOPTERA LITTORALIS NUCLEAR POLYHEDROSIS VIRUS	17-51							
PRASK_MSVKI	TRANSFORMING PROTEIN 21	KIRSTEN MURINE SARCOMA VIRUS	142-176							
PREV_BIV27	REV PROTEIN	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127)	77-113							
PREV_EIAV9	REV PROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE 1169)	51-89							
PREV_EIAVC	REV PROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE CL22)	51-89							
PREV_EIAVY	REV PROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (ISOLATE WYOMING)	81-119							
PREV_HV112	REV PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (CLONE 12)	35-69							
PREV_HV1A2	REV PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ANT70/SF2 ISOLATE	33-69							
PREV_HV1B1	REV PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH10 ISOLATE)	35-69							
PREV_HV1BH	REV PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH8 ISOLATE)	35-69							
PREV_HV1BR	REV PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRAZIL ISOLATE)	23-59							
PREV_HV1EL	REV PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE)	35-69							
PREV_HV1H3	REV PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK) ISOLATE)	33-66							
PREV_HV1J5	REV PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JH) ISOLATE)	39-43							
PREV_HV1JR	REV PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JRCSF ISOLATE)	31-66							
PREV_HV1MA	REV PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MAL ISOLATE)	31-66							
PREV_HV1MN	REV PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MN ISOLATE)	31-66							
PREV_HV1OY	REV PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (OYI ISOLATE)	32-69							
PREV_HV1PV	REV PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE) AN	33-69							
PREV_HV1S3	REV PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SF3) ISOLATE)	35-69							
PREV_HV1SC	REV PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SC ISOLATE)	33-69							
PREV_SIVAI	REV PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM155 ISOLATE)	26-77							
PREV_SIVAG	REV PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM3 ISOLATE)	26-77							
PREV_SIVAI	REV PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM / CLONE GR	29-77							
PREV_SIVAT	REV PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	28-75							
PREV_SIVCZ	REV PROTEIN	CHIMPANZEE IMMUNODEFICIENCY VIRUS	33-67							
PREV_VILV	REV PROTEIN	VISNA LENTIVIRUS (STRAIN 1514)	21-62							
PRIR1_ASFM3	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LAR	AFRICAN SWINE FEVER VIRUS (ISOLATE MALAWI LIL 20/1)	7-41	88-133	633-683					
PRIR1_EBV	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LAR	EPSTEIN-BARR VIRUS (STRAIN B95-8)	213-247	689-723						

PCGENE	ALLMOTIF	All Viruses (no bacteriophages)							
FILENAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PURI_HSV2B	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LAR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	603-668							
PURI_HSV1A	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LAR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	78-110							
PURI_VACCC	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LAR	HERPESVIRUS SAIMIRI (STRAIN 11)	324-365							
PURI_VACCV	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LAR	VACCINIA VIRUS (STRAIN COPENHAGEN)	367-402							
PURI_VARV	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LAR	VACCINIA VIRUS (STRAIN WR)	367-402							
PURI_VZVD	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LAR	VARIOLA VIRUS	367-402							
PURI2_EBV	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LAR	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	221-257							
PURI3_HSV81	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE SHA	EPSTEIN-BARR VIRUS (STRAIN B95-8)	89-137							
PURI3_HSV2B	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE SHA	BOVINE HERPESVIRUS TYPE 1 (STRAIN 34)	101-133							
PURI3_HSV1A	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE SHA	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	106-140							
PURI3_SFVKA	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE SHA	HERPESVIRUS SAIMIRI (STRAIN 11)	123-159							
PURI3_VACCC	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE SHA	SHOPE FIBROMA VIRUS (STRAIN KASZA)	98-132							
PURI3_VACCP	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE SHA	VACCINIA VIRUS (STRAIN COPENHAGEN)	98-132							
PURI3_VACCV	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE SHA	VACCINIA VIRUS (STRAIN L-IVP)	98-132							
PURI3_VARV	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE SHA	VACCINIA VIRUS (STRAIN WR)	98-132							
PURI_HSV2H	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE SHA	VARIOLA VIRUS	98-132							
PURP4_VACCV	NEUROVIRULENCE FACTOR	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN HG52)	171-212							
PURP4_VARV	RNA-POLYMERASE-ASSOCIATED TRANSCRIPTION	VACCINIA VIRUS (STRAIN WR), AND (STRAIN COPENHAGEN	116-150	465-540	737-791					
PUPO1_VACCC	RNA-POLYMERASE-ASSOCIATED TRANSCRIPTION	VARIOLA VIRUS	41-75	116-150	465-540	737-791				
PUPO1_VACCV	DNA-DIRECTED RNA POLYMERASE 147 KD POLYPE	VACCINIA VIRUS (STRAIN COPENHAGEN)	243-291	622-656	734-791	934-988	1006-1057			
PUPO1_VARV	DNA-DIRECTED RNA POLYMERASE 147 KD POLYPE	VACCINIA VIRUS (STRAIN WR)	243-291	622-656	734-791	934-988	1024-1058			
PUPO1_CAPVK	DNA-DIRECTED RNA POLYMERASE 147 KD POLYPE	VARIOLA VIRUS	243-291	622-656	734-791	934-988	1006-1057			
PUPO3_COWPX	DNA-DIRECTED RNA POLYMERASE 132 KD POLYPE	CAPRIPOXVIRUS (STRAIN KS-1)	19-60	114-155	389-430					
PUPO2_VACCV	DNA-DIRECTED RNA POLYMERASE 132 KD POLYPE	COWPOX VIRUS	211-245	339-400	833-874					
PUPO1_VARV	DNA-DIRECTED RNA POLYMERASE 133 KD POLYPE	VACCINIA VIRUS (STRAIN WR), AND (STRAIN COPENHAGEN)	211-245	339-400	833-874					
PUPO4_VACCC	DNA-DIRECTED RNA POLYMERASE 133 KD POLYPE	VARIOLA VIRUS	211-245	339-400	833-874					
PUPO4_VACCV	DNA-DIRECTED RNA POLYMERASE 35 KD POLYPEP	VACCINIA VIRUS (STRAIN COPENHAGEN)	62-116							
PUPO4_VARV	DNA-DIRECTED RNA POLYMERASE 35 KD POLYPEP	VACCINIA VIRUS (STRAIN WR)	62-116							
PUPO3_VACCC	DNA-DIRECTED RNA POLYMERASE 35 KD POLYPEP	VARIOLA VIRUS	62-116							
PUPO7_VACCV	DNA-DIRECTED RNA POLYMERASE 30 KD POLYPEP	VACCINIA VIRUS (STRAIN COPENHAGEN)	1-71							
PUPO7_VARV	DNA-DIRECTED RNA POLYMERASE 30 KD POLYPEP	VACCINIA VIRUS (STRAIN WR)	1-71							
PUPO6_VACCV	DNA-DIRECTED RNA POLYMERASE 30 KD POLYPEP	VARIOLA VIRUS	1-71							
PUPO6_VARV	DNA-DIRECTED RNA POLYMERASE 22 KD POLYPEP	VACCINIA VIRUS (STRAIN WR), AND (STRAIN COPENHAGEN)	25-59							
PUPO7_VACCV	DNA-DIRECTED RNA POLYMERASE 22 KD POLYPEP	VARIOLA VIRUS	25-59							
PUPO7_VARV	DNA-DIRECTED RNA POLYMERASE 19 KD POLYPEP	VACCINIA VIRUS (STRAIN WR), AND (STRAIN COPENHAGEN)	43-93							
PUPO8_LELV	DNA-DIRECTED RNA POLYMERASE 19 KD POLYPEP	VARIOLA VIRUS	43-93							
PUPOL_EAV	RNA-DIRECTED RNA POLYMERASE	LELYSTAD VIRUS	1535-1567	1721-1758	1958-1992	2109-2157				
PURP1_LAMN	RNA-DIRECTED RNA POLYMERASE	EQUINE ARTERITIS VIRUS	1082-1117	1477-1518	1633-1673					
PURP1_LABEJ	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	171-242	279-313						
PURP1_LADUN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/BEIJING/11/56)	171-242	279-313	350-391					
PURP1_LAGUI	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/DUMEDIN/4/71)	171-242	279-313						
PURP1_LAHKO	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/GULLMARSTAND/70/77)	171-242	279-313						
PURP1_LAHTE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/EQUI1/LONDON/1/1873)	168-242	279-313						
PURP1_LAKIE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/EQUINE/TENNESSEE/5/86)	168-242	279-313						
PURP1_LAKOR	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/KIEV/59/79)	171-242	279-313						
PURP1_LALEI	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/KOREA/426/68)	171-242	279-313						
PURP1_LALE2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/57)	171-242	279-313						
PURP1_LALE3	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/17/57)	171-242	279-313						
PURP1_LAMAN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/57)	171-242	279-313						
PURP1_LAMEB	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/MALLARD/NEW YORK/6750/78)	171-242	279-313						
PURP1_LANT6	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/MEMPHIS/6/83)	171-242	279-313						
PURP1_LAPUE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/NT/60/68)	171-242	279-313						

PCGENE	ALLMOTH	All Viruses (no bacteriophages)	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1
	VIRUS								
TITLE PAME	PROTEIN								
PRUF1_1A5N	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	160-242	279-313					
PRUF1_1A5N	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/SINGAPORE/1/57)	171-242	279-313					
PRUF1_1ATKM	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/TURKEY/MINNESOTA/833/80	171-242	279-313					
PRUF1_1AVI7	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/VICTORIA/3/75)	171-242	279-313					
PRUF1_1AWL	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/WILSON-SMITH/33)	160-242	279-313					
PRUF1_1AWS	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/WISCONSIN/67/52/88)	160-242	279-313					
PRUF1_1AZ0	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/SWINE/HONG KONG/12/83)	157-242	279-313					
PRUF1_1AZ0N	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/SWINE/ONTARIO/2/81)	171-242	279-313					
PRUF1_1AZ7F	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/SWINE/TENNESSEE/26/77)	171-242	279-313					
PRUF1_1NBAC	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66)	208-249						
PRUF1_1NBAD	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 [WILD-TYPE]	208-249						
PRUF1_1NBLE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA B VIRUS (STRAIN B/LEE/40)	208-249						
PRUF1_1NCJI	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA C VIRUS (STRAIN C/JJ/50)	150-184	640-686	707-732				
PRUF2_1AANN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	110-144	177-218					
PRUF2_1ADK2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/DUCK/HOKKAIDO/8/80)	110-144	177-218					
PRUF2_1AFPA	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK	110-144	177-218					
PRUF2_1AGU2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/GULL/MARYLAND/704/77)	110-144	177-218					
PRUF2_1AHTE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/EQUINE/TENNESSEE/5/88)	110-144	177-218					
PRUF2_1AKOR	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/KOREA/426/68)	110-144	177-218					
PRUF2_1ALE1	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/57)	110-144	177-218					
PRUF2_1ALE2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/17/57)	110-144	177-218					
PRUF2_1AMAN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/MALLARD/NEW YORK/6750/78)	110-144	177-218					
PRUF2_1AMT6	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/MT/6/66)	110-144	177-218					
PRUF2_1APU6	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/119/79)	110-144	177-218					
PRUF2_1APUE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	110-144	177-218					
PRUF2_1ARUD	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/RUDDY TURNSTONE/NEW JERS	110-144	177-218					
PRUF2_1ASIN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/SINGAPORE/1/57)	110-144	177-218					
PRUF2_1ATK4	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/TURKEY/MINNESOTA/833/80)	110-144	177-218					
PRUF2_1AVI7	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/VICTORIA/3/75)	110-144	177-218					
PRUF2_1AWL	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/WILSON-SMITH/33)	110-144	177-218					
PRUF2_1AZH3	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/SWINE/HONG KONG/81/78	110-144	177-218					
PRUF2_1AZH0	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/SWINE/HONG KONG/12/83)	110-144	177-218					
PRUF2_1AZ11	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/15/30	110-144	177-218					
PRUF2_1AZ7F	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/SWINE/TENNESSEE/26/77)	110-144	177-218					
PRUF2_1NBAC	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 [COLD-ADAPTE	111-196	349-390					
PRUF2_1NBAD	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 [WILD-TYPE]	111-196	349-390					
PRUF2_1NBSI	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA B VIRUS (STRAIN B/SINGAPORE/222/79)	111-196	349-383					
PRUF3_1AANN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	1-42	363-402	473-514	707-755			
PRUF3_1ABUD	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/BUDGERIGAR/HOKKAIDO/1/77)	1-42	363-402	473-514	518-567	707-755		
PRUF3_1ACH2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/CHICKEN/1/81)	1-42	363-402	473-514	707-755			
PRUF3_1AFPA	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK	1-42	363-402	473-514	707-755			
PRUF3_1AFPW	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/WEYBRID	1-42	363-402	473-514	707-755			
PRUF3_1AGU2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/GULL/MARYLAND/704/77	1-42	363-402	473-514	707-755			
PRUF3_1AGUA	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/GULL/ASTRAKHAN/227/84)	7-41	363-402	473-514	707-755			
PRUF3_1AHK4	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/EQUINE/KENTUCKY/7/80)	1-42	363-402	473-514	707-755			
PRUF3_1AILO	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/EQUINE/LONDON/1416/73)	1-42	363-402	473-514	707-755			
PRUF3_1ANPR	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/EQUINE/PRAGUE/1/56)	1-42	363-402	473-514	721-755			
PRUF3_1AKOR	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/KIEV/19/79)	1-42	363-402	473-514	707-755			
PRUF3_1AKOR	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/KOREA/426/68)	1-42	363-402	473-514	707-755			
PRUF3_1ALE1	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/57)	1-42	363-402	473-514	707-755			
PRUF3_1ALE3	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/17/57)	1-42	363-402	473-514	707-755			

PCGENE	ALLMOTIS	All Viruses (no bacteriophages)								
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PRRP3_IAMAN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/47/57)	1-42	363-402	473-514	707-755				
PRRP3_IAMEE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/MALLARD/NEW YORK/6750/78)	363-402	473-514	707-755					
PRRP3_IANT6	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/MEMPHIS/8/88)	7-41	363-402	473-514	707-755				
PRRP3_IAPUE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/NT/60/68)	1-42	363-402	473-514	707-755				
PRRP3_IARUD	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	1-42	363-402	473-514	707-755				
PRRP3_IASE2	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/RUDDY TURNSTONE/NEW JERSE	1-42	363-402	473-514	707-755				
PRRP3_IASIN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/SEAL/MASSACHUSETTS/1/33/82)	1-42	363-402	473-514	707-755				
PRRP3_IATKM	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/SINGAPORE/1/57)	1-42	363-402	473-514	707-755				
PRRP3_IAVI7	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/TURKEY/MINNESOTA/833/80)	1-42	363-402	473-514	707-755				
PRRP3_IAWIL	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/VICTORIA/3/75)	1-42	363-402	473-514	707-755				
PRRP3_IAZ11	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/WILSON-SMITH/33	1-42	363-402	473-514	707-755				
PRRP3_IAZTE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/15/30)	1-42	363-402	473-514	707-755				
PRRP3_INBAC	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA A VIRUS (STRAIN A/SWINE/TENNESSEE/24/77	7-41	363-402	473-514	707-755				
PRRP3_INBAD	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 [COLD-ADAPTE	458-533							
PRRP3_INCBE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 [WILD-TYPE])	458-533							
PRRP3_INCJ3	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA C VIRUS (STRAIN C/BERLIN/1/85)	235-269	275-309						
PRRP3_THOGV	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	INFLUENZA C VIRUS (STRAIN C/JJ/50)	235-269	275-316						
PRRPA_CVH22	RNA-DIRECTED RNA POLYMERASE SUBUNIT P3	THOGOTO VIRUS	343-401							
PRRPA_CVMJH	RNA-DIRECTED RNA POLYMERASE	HUMAN CORONAVIRUS (STRAIN 229E)	358-392	495-571	1742-1776	1971-2008	3664-3724	3912-3946		
PRRPB_BEV	RNA-DIRECTED RNA POLYMERASE	MURINE CORONAVIRUS MHV (STRAIN JHM)	617-651	1364-1398	2769-2803	3586-3620	3821-3855	4075-4121	4319-4353	
PRRPB_CVMA5	RNA-DIRECTED RNA POLYMERASE	BERNE VIRUS	20-64	617-651	943-1009					
PRRPB_CVMJH	RNA-DIRECTED RNA POLYMERASE	MURINE CORONAVIRUS MHV (STRAIN A59)	1129-1170	1303-1337	1453-1494	1692-1726	2629-2670			
PRRPB_IBVB	RNA-DIRECTED RNA POLYMERASE	MURINE CORONAVIRUS MHV (STRAIN JHM)	1129-1170	1303-1337	1453-1494	1690-1724	2627-2668			
PRRPB_IBVK	RNA-DIRECTED RNA POLYMERASE	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	499-550	650-695	1460-1494	1509-1548	2246-2287			
PRRPL_BTV10	RNA-DIRECTED RNA POLYMERASE	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN KB8523)	115-156							
PRRPL_BUNYW	RNA-DIRECTED RNA POLYMERASE	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	308-342	705-748	825-903	1021-1076	1114-1201			
PRRPL_CDVO	RNA POLYMERASE	BUNYAMWERA VIRUS	2-36	80-114	308-363	371-412	1704-1741	1802-1861	1889-1935	
PRRPL_HANTV	RNA POLYMERASE BETA SUBUNIT	CANINE DISTEMPER VIRUS (STRAIN ONDERSTEPOORT)	20-54							
PRRPL_HRSVA	RNA POLYMERASE	HANTAAN VIRUS (STRAIN 76-118)	98-139	174-208	372-431	557-591	655-696	731-783	905-949	1276-1310
			1419-1453	1742-1776	1993-2027					
PRRPL_MABVM	RNA POLYMERASE BETA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2	87-188	827-861	1131-1179	1185-1220	1465-1517			
PRRPL_MABVP	RNA-DIRECTED RNA POLYMERASE	MARBURG VIRUS (STRAIN MUSOKE)	597-631	1046-1092	1490-1552	1804-1838	2029-2063	2194-2266		
PRRPL_MEASE	RNA-DIRECTED RNA POLYMERASE	MARBURG VIRUS (STRAIN POPP)	597-631	1046-1092	1490-1552					
PRRPL_MUMPM	RNA POLYMERASE BETA SUBUNIT	MEASLES VIRUS (STRAIN EDMONSTON)	197-231	790-824	869-903	1064-1109	1283-1317	2121-2155		
PRRPL_NDVB	RNA POLYMERASE BETA SUBUNIT	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	164-214	220-254	267-304	576-627	752-807	1231-1286	1447-1481	1487-1531
			1566-1600	2191-2225						
PRRPL_PI2HT	RNA POLYMERASE BETA SUBUNIT	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C/45)	167-208	210-295	1969-2013	2043-2077	2108-2142			
PRRPL_PI3H4	RNA POLYMERASE BETA SUBUNIT	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSHIDA)	136-170	575-628	730-785	1226-1284	1316-1357	1417-1479	1564-1630	1687-1721
			1901-1955							
PRRPL_PUUMH	RNA POLYMERASE BETA SUBUNIT	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	48-91	107-163	540-574	747-781	1064-1129	1293-1356	1499-1536	1994-2036
PRRPL_RABVP	RNA-DIRECTED RNA POLYMERASE	PUUMALA VIRUS (STRAIN HALLNAS B1)	98-132	381-415	444-488	557-591	655-696	731-783	922-976	1119-1153
			1742-1776	1940-1975	1993-2032					
PRRPL_RABVS	RNA POLYMERASE BETA SUBUNIT	RABIES VIRUS (STRAIN PV)	73-114	197-231	696-730	1174-1222	1522-1580	1584-1618	2068-2123	
PRRPL_RDV	RNA POLYMERASE BETA SUBUNIT	RABIES VIRUS (STRAIN SAD B19)	73-114	197-231	696-730	749-783	1174-1222	1522-1580	1584-2123	
PRRPL_RVFVZ	RNA-DIRECTED RNA POLYMERASE	RICE DWARF VIRUS	17-61	534-575	844-878	918-985	1037-1071			
PRRPL_SEND5	RNA-DIRECTED RNA POLYMERASE	RIFT VALLEY FEVER VIRUS (STRAIN ZH-548 M12)	398-439	641-678	832-887	1081-1115	1653-1687	1819-1870		
PRRPL_SENDE	RNA POLYMERASE BETA SUBUNIT	SENDAI VIRUS (STRAIN Z / HOST MUTANTS)	309-343	540-600	612-656	747-781	1064-1119	1239-1280	1499-1536	2000-2034
			2146-2216							
PRRPL_SEND2	RNA POLYMERASE BETA SUBUNIT	SENDAI VIRUS (STRAIN ENDER5)	129-163	360-420	432-476	567-601	884-939	1059-1100	1319-1356	1820-1854
			1966-2036							

PGENE	ALLMOTIS	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILE NAME	PROTEIN	VIRUS								
PRVPL_SEQUB	RNA POLYMERASE BETA SUBUNIT	SENDAI VIRUS (STRAIN Z)	309-343	540-600	613-656	747-781	1064-1119	1239-1280	1499-1536	2000-2034
			2146-2216							
PRVPL_SEQUB	RNA-DIRECTED RNA POLYMERASE	SEOUL VIRUS (STRAIN 80-39)	98-139	174-208	557-591	655-696	731-765	1742-1776	1947-1981	1993-2027
PRVPL_SVJWR	RNA POLYMERASE BETA SUBUNIT	SIMIAN VIRUS 5 (STRAIN 2/1004-WR)	547-827	747-781	1225-1280	1318-1353	1592-1626	1676-1715	2024-2058	
PRVPL_SVJNV	RNA POLYMERASE BETA SUBUNIT	SONCHUS YELLOW NET VIRUS	760-794	825-859	977-1014	1088-1137	1978-2032	2059-2107		
PRVPL_TSWVB	RNA POLYMERASE BETA SUBUNIT	TOMATO SPOTTED WILT VIRUS (BRAZILIAN ISOLATE CPNH/BR	46-101	399-433	539-573	1119-1153	1195-1236	1321-1379	1536-1573	
PRVPL_UUK	RNA-DIRECTED RNA POLYMERASE		1684-1723	1857-1896	2073-2137	2156-2200	2286-2347	2315-2368	2378-2419	2869-2843
PRVPL_VSVJH	RNA POLYMERASE	UUKUNIEMI VIRUS	137-189	282-323	816-874	1030-1071	1481-1515	2015-2049	2061-2098	
PRVPL_VSVJO	RNA POLYMERASE BETA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRA	318-358	674-715	726-763	1322-1367	1802-1836			
PRVPL_VSVJJ	RNA POLYMERASE BETA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRA	318-358	674-715	726-763	1802-1836				
PRVPO_ACLSV	RNA POLYMERASE BETA SUBUNIT	VESICULAR STOMATITIS VIRUS (STRAIN SAN JUAN)	674-715	726-763	1018-1074	1742-1799	2066-2107			
PRVPO_BWYVF	RNA-DIRECTED RNA POLYMERASE	APPLE CHLOROTIC LEAF SPOT VIRUS	228-262	557-596	916-950	1235-1269				
PRVPO_BYDV1	PUTATIVE RNA-DIRECTED RNA POLYMERASE	BEET WESTERN YELLOWS VIRUS (ISOLATE FL-1)	304-341							
PRVPO_BYDV8	PUTATIVE RNA-DIRECTED RNA POLYMERASE	BARLEY YELLOW DWARF VIRUS (ISOLATE MAV-PS1)	224-285							
PRVPO_BYDVR	PUTATIVE RNA-DIRECTED RNA POLYMERASE	BARLEY YELLOW DWARF VIRUS (ISOLATE PAV)	224-285							
PRVPO_CABMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	BARLEY YELLOW DWARF VIRUS (ISOLATE P-PAV)	224-285							
PRVPO_CGMVS	PROBABLE RNA-DIRECTED RNA POLYMERASE	CARNATION MOTTLE VIRUS	93-131							
PRVPO_CIDV5	PUTATIVE RNA-DIRECTED RNA POLYMERASE	CUCUMBER GREEN MOTTLE MOSAIC VIRUS (WATERMELON STR	7-41	387-428	446-480	726-767	1445-1479			
PRVPO_CIDVA	PUTATIVE RNA-DIRECTED RNA POLYMERASE	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN 52/70)	384-432	446-484						
PRVPO_CIDVA	PUTATIVE RNA-DIRECTED RNA POLYMERASE	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN AUSTRALI	144-185	366-397	709-757	771-809				
PRVPO_PNVJ	PUTATIVE RNA-DIRECTED RNA POLYMERASE	INFECTIOUS PANCREATIC NECROSIS VIRUS (SEROTYPE JASPER)	147-181	268-407	501-535	750-802				
PRVPO_PNVS	PUTATIVE RNA-DIRECTED RNA POLYMERASE	INFECTIOUS PANCREATIC NECROSIS VIRUS (SEROTYPE SP)	147-181	366-407	501-535	753-802				
PRVPO_LYCVA	RNA POLYMERASE	LYMPHOCYTIC CHORIOMENINGITIS VIRUS (STRAIN ARMSTRON	301-346	805-886	926-960	1509-1543	2090-2124			
PRVPO_LYCVW	RNA POLYMERASE	LYMPHOCYTIC CHORIOMENINGITIS VIRUS (STRAIN WE)	301-345							
PRVPO_MCMV	PROBABLE RNA-DIRECTED RNA POLYMERASE	MAIZE CHLOROTIC MOTTLE VIRUS	181-215	697-731						
PRVPO_PEAMV	RNA-DIRECTED RNA POLYMERASE	PEA ENATION MOSAIC VIRUS	321-358							
PRVPO_PLAV1	PUTATIVE RNA-DIRECTED RNA POLYMERASE	POTATO LEAFROLL VIRUS (STRAIN 1)	316-353	423-457						
PRVPO_PLAVW	PUTATIVE RNA-DIRECTED RNA POLYMERASE	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN)	316-353	423-457						
PRVPO_PMVS	PUTATIVE RNA-DIRECTED RNA POLYMERASE	PEPPER MILD MOTTLE VIRUS (STRAIN SPAIN	321-362	402-434	627-661	862-896				
PRVPO_RCMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	RED CLOVER NECROTIC MOSAIC VIRUS	666-700							
PRVPO_REOVD	PUTATIVE RNA-DIRECTED RNA POLYMERASE	REOVIRUS (TYPE 3 / STRAIN DEARING)	318-361							
PRVPO_REOVL	RNA-DIRECTED RNA POLYMERASE	REOVIRUS (TYPE 2 / STRAIN DS/JONES)	310-344							
PRVPO_ROTBR	RNA-DIRECTED RNA POLYMERASE	REOVIRUS (TYPE 1 / STRAIN LANG)	310-361							
PRVPO_ROTBU	RNA-DIRECTED RNA POLYMERASE SUBUNIT VP1	BOVINE ROTAVIRUS (STRAIN RF)	60-96	133-167	204-245	535-569	579-631	639-686	690-724	771-805
PRVPO_ROTBU	RNA-DIRECTED RNA POLYMERASE SUBUNIT VP1	BOVINE ROTAVIRUS (STRAIN UK)	60-96	133-167	204-245	535-569	579-631	639-686	690-724	771-805
PRVPO_ROTPC	RNA-DIRECTED RNA POLYMERASE SUBUNIT VP1	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	3-44	215-299	535-597	676-710	518-620	966-1007		
PRVPO_ROTPO	RNA-DIRECTED RNA POLYMERASE SUBUNIT VP1	PORCINE ROTAVIRUS (STRAIN OSTERHED)	62-96	133-167	336-377	581-631	636-686	690-724	771-842	
PRVPO_ROTSI	RNA-DIRECTED RNA POLYMERASE SUBUNIT VP1	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	60-96	133-167	535-569	579-631	639-686	690-724	771-805	
PRVPO_SBMV	RNA-DIRECTED RNA POLYMERASE	SOUTHERN BEAN MOSAIC VIRUS	628-665							
PRVPO_SCYLA	PROBABLE RNA-DIRECTED RNA POLYMERASE	SACCHAROMYCES CEREVISIAE VIRUS L-A	100-134	147-191						
PRVPO_TACV	RNA-DIRECTED RNA POLYMERASE	TACAIBE VIRUS	153-204	220-278	372-416	484-518	891-925	1030-1081	1285-1319	1981-2015
PRVPO_TMGMV	RNA POLYMERASE	TOBACCO MILD GREEN MOSAIC VIRUS (TMV STRAIN U2)	401-449	682-720	765-818					
PRVPO_TMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	TOBACCO MOSAIC VIRUS (VULGARE)	3-37	401-453	665-699					
PRVPO_TMVTA	PUTATIVE RNA-DIRECTED RNA POLYMERASE	TOBACCO MOSAIC VIRUS (STRAIN KOREAN)	3-37	401-453	665-699					
PRVPO_TMVTO	PUTATIVE RNA-DIRECTED RNA POLYMERASE	TOBACCO MOSAIC VIRUS (STRAIN TOMATOL)	3-37	401-453	866-894					
PRVPO_TMVO	PUTATIVE RNA-DIRECTED RNA POLYMERASE									

PCGENE	ALLMOTIF	All Viruses (no bacteriophages)								
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PRUPP_BNSVA	RNA-DIRECTED RNA POLYMERASE	TOBACCO NECROSIS VIRUS (STRAIN D)	102-144							
PRUPP_CDVO	RNA POLYMERASE ALPHA SUBUNIT	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A51908)	99-158	160-216						
PRUPP_HRSV	RNA POLYMERASE ALPHA SUBUNIT	CANINE DISTEMPER VIRUS (STRAIN ONDERSTEPOORT)	313-373							
PRUPP_HRSV1	RNA POLYMERASE ALPHA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS	99-158	160-216						
PRUPP_HRSVA	RNA POLYMERASE ALPHA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAI	99-158	160-216						
PRUPP_HRSVL	RNA POLYMERASE ALPHA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	99-158	160-216						
PRUPP_MEASE	RNA POLYMERASE ALPHA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP A / STRA	99-158	160-216						
PRUPP_MEASI	RNA POLYMERASE ALPHA SUBUNIT	MEASLES VIRUS (STRAIN EDMONSTON)	315-374	460-495						
PRUPP_MEASY	RNA POLYMERASE ALPHA SUBUNIT	MEASLES VIRUS (STRAIN IP-3-CA)	315-374	460-495						
PRUPP_MUMP1	RNA POLYMERASE ALPHA SUBUNIT	MEASLES VIRUS (STRAIN YAMAGATA-1)	315-374	460-495						
PRUPP_MUMPE	RNA POLYMERASE ALPHA SUBUNIT	MUMPS VIRUS (STRAIN SBL-1)	149-183	213-275						
PRUPP_MUMPM	RNA POLYMERASE ALPHA SUBUNIT	MUMPS VIRUS (STRAIN ENDERS)	214-276							
PRUPP_NDVA	RNA POLYMERASE ALPHA SUBUNIT	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	214-276							
PRUPP_NDVB	RNA POLYMERASE ALPHA SUBUNIT	NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA-VICTORIA/32)	100-134							
PRUPP_PIIHB	RNA POLYMERASE ALPHA SUBUNIT	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C48)	100-134							
PRUPP_PIIHC	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C35)	80-114	313-364	375-437					
PRUPP_PIIHD	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C39)	80-114	313-364	375-437					
PRUPP_PIIHE	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C-372)	80-114	313-364	375-437					
PRUPP_PIIH	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN CI-14030)	66-114	237-271	313-364	375-437				
PRUPP_PIIHT	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 3 VIRUS	218-281							
PRUPP_PIIB	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN TOSHIBA)	218-281							
PRUPP_PIHM	RNA POLYMERASE ALPHA SUBUNIT	BOVINE PARAINFLUENZA 3 VIRUS	31-130	414-479						
PRUPP_PIHA	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	410-499							
PRUPP_PIHB	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 4A VIRUS (STRAIN TOSHIBA)	4-38	222-285						
PRUPP_PIKV	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 4B VIRUS (STRAIN 48-333)	222-285							
PRUPP_RABVA	RNA POLYMERASE ALPHA SUBUNIT	PIK V VIRUS	137-174							
PRUPP_RABVC	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN AVO1)	93-127							
PRUPP_RABVE	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN CVS-11)	93-127							
PRUPP_RABVF	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN ERA), AND (STRAIN PM)	93-127							
PRUPP_RABVS	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN PV)	93-127							
PRUPP_SENDJ	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN SAD B19	93-127							
PRUPP_SENDN	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN Z / HOST MUTANTS)	313-364	375-447						
PRUPP_SENDF	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN 6/54)	313-364	375-447						
PRUPP_SENDH	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN FUSHIMI)	313-364	375-447						
PRUPP_SENDZ	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN HARRIS)	313-364	375-447						
PRUPP_SV5	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN Z)	313-364	375-447						
PRUPP_SVNV	RNA POLYMERASE ALPHA SUBUNIT	SIMIAN VIRUS 5 (STRAIN W3)	205-278							
PRUPP_VSVO	RNA POLYMERASE ALPHA SUBUNIT	SONCHUS YELLOW NET VIRUS	138-173	233-281						
PRUPP_VSVIM	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE INDIANA / STRAIN C	3-43							
PRUPP_VSVIO	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE INDIANA / STRAIN M	3-43							
PRUPP_VSVJ	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRA	3-37							
P3PHR_AMDPV	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (STRAIN SAN JUAN)	3-43							
P3P12_VACCV	SPHEROIDIN	AMSACTA MOOREI ENTOMOPOXVIRUS	223-264	361-395						
P3P12_VAAV	SERINE PROTEINASE INHIBITOR	VACCINIA VIRUS (STRAIN WR)	21-86							
P3P13_VACCC	SERINE PROTEINASE INHIBITOR 2	VARIOLA VIRUS	21-86							
P3P13_VACCV	SERINE PROTEINASE INHIBITOR 3	VACCINIA VIRUS (STRAIN COPENHAGEN)	118-167	223-264						
P3P13_VAAV	SERINE PROTEINASE INHIBITOR 3	VACCINIA VIRUS (STRAIN WR)	118-167	223-264						

PCGENE	ALLMOTIS	All Viruses (no bacteriophages)								
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 3	AREA 2	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PSPIA_VACCC	SERINE PROTEINASE INHIBITOR 3	VARIOLA VIRUS	122-171	229-270						
PT2C2_CHVP1	SERINE PROTEINASE INHIBITOR 2 HOMOLOG FIRST	VACCINIA VIRUS (STRAIN COPENHAGEN)	11-65							
PTAA3_VACCV	TYPE II RESTRUCTION ENZYME CVIAII	PARAMECIUM BURSARIA CHLORELLA VIRUS 1	48-85							
PTAG8_FOWPV	TRANS-ACTIVATOR PROTEIN A2	VACCINIA VIRUS (STRAIN WR, COPENHAGEN, AND VARIOLA VI	95-133	173-207						
PTAG8_VACCV	TRANS-ACTIVATOR PROTEIN F70	FOWLPOX VIRUS	3-51							
PTAG8_VARV	TRANS-ACTIVATOR PROTEIN GK1	VACCINIA VIRUS (STRAIN WR), (STRAIN COPENHAGEN)	3-51							
PTALA_BFDV	TRANS-ACTIVATOR PROTEIN GK1	VARIOLA VIRUS	3-51							
PTALA_POVBO	LARGE T ANTIGEN	BUDGERIGAR FLEDGLING DISEASE VIRUS	291-325	464-498						
PTALA_POVHA	LARGE T ANTIGEN	BOVINE POLYOMAVIRUS	303-337	495-537						
PTALA_POVHC	LARGE T ANTIGEN	HAMSTER POLYOMAVIRUS	464-501	587-621						
PTALA_POVLY	LARGE T ANTIGEN	POLYOMAVIRUS JC	153-187	589-623						
PTALA_POVMJ	LARGE T ANTIGEN	LYMPHOTROPIC POLYOMAVIRUS	3-41	206-258	437-478					
PTALA_POVMA	LARGE T ANTIGEN	MOUSE POLYOMAVIRUS (STRAIN 3)	509-544							
PTALA_POVMC	LARGE T ANTIGEN	MOUSE POLYOMAVIRUS (STRAIN A2)	507-542							
PTAMJ_POVHA	LARGE T ANTIGEN	MOUSE POLYOMAVIRUS (STRAIN CRAWFORD SMALL-PLAQUE)	504-539							
PTAMI_POVMJ	MIDDLE T ANTIGEN	HAMSTER POLYOMAVIRUS	339-378							
PTAMI_POVMA	MIDDLE T ANTIGEN	MOUSE POLYOMAVIRUS (STRAIN 3)	211-245	388-422						
PTAMI_POVMC	MIDDLE T ANTIGEN	MOUSE POLYOMAVIRUS (STRAIN A2)	192-226	369-403						
PTASM_POVBO	MIDDLE T ANTIGEN	MOUSE POLYOMAVIRUS (STRAIN CRAWFORD SMALL-PLAQUE)	192-226	369-403						
PTASM_POVLY	SMALL T ANTIGEN	BOVINE POLYOMAVIRUS	41-85							
PTATR_NPVAC	SMALL T ANTIGEN	LYMPHOTROPIC POLYOMAVIRUS	3-41							
PTATR_NPVBM	TRANS-ACTIVATING TRANSCRIPTIONAL REGULAT	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	408-442	46-480	489-523					
PTATR_NPVOP	TRANS-ACTIVATING TRANSCRIPTIONAL REGULAT	BOMBYX MORI NUCLEAR POLYHEDROSIS VIRUS	415-447	451-485	494-528					
PTAT_SIVA1	TRANS-ACTIVATING TRANSCRIPTIONAL REGULAT	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	391-455	511-554						
PTAT_SIVAI	TAT PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM155 ISOLATE)	73-109							
PTAT_VILV	TAT PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM / CLONE GR	137-185							
PTAT_VILV1	TRANS-ACTIVATING TRANSCRIPTIONAL REGULAT	VISNA LENTIVIRUS (STRAIN 1514)	28-74							
PTAT_VILV2	TRANS-ACTIVATING TRANSCRIPTIONAL REGULAT	VISNA LENTIVIRUS (STRAIN 1514 / CLONE LV1-1KS1)	40-74							
PTCB_FLV	TRANS-ACTIVATING TRANSCRIPTIONAL REGULAT	VISNA LENTIVIRUS (STRAIN 1514 / CLONE LV1-1KS2)	40-74							
PTEGP_HSV11	T-CELL RECEPTOR BETA CHAIN PRECURSOR	FELINE LEUKEMIA VIRUS	279-321							
PTEGP_HSVEA	TEGUMENT PHOSPHOPROTEIN US9	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	27-61							
PTEGP_HSVEB	NONSENSE									
PTEGP_HSVEK	NONSENSE									
PTEGP_HSVSB	NONSENSE									
PTEGU_EBV	NONSENSE									
PTEGU_HCMVA	LARGE TEGUMENT PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	768-802	821-855	938-972	1101-1138	1208-1242	1479-1516	1700-1753	1809-1867
			1870-1916	1920-1954	2108-2149					
PTEGU_HSV11	PROBABLE LARGE TEGUMENT PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	34-71	215-249	543-581	700-738	868-909	936-977	1004-1038	1163-1200
			1237-1296	2200-2235						
PTEGU_HSV6G	LARGE TEGUMENT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	731-765	801-842	1022-1059	1223-1269	1275-1309	1315-1370	1520-1531	1609-1669
			1673-1714	1749-1783	1820-1854	2670-2704				
PTEGU_HSVEB	LARGE TEGUMENT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	30-71	224-262	567-608	712-757	951-1000	1091-1181	1192-1233	1357-1400
PTEGU_HSVSA	LARGE TEGUMENT PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	560-597	635-683	794-848	908-956	1108-1151	1155-1246	1399-1458	1487-1549
			1619-1657	1661-1695	1702-1736	1806-1843	1947-1981			
PTEGU_VZVD	PROBABLE LARGE TEGUMENT PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	520-558	560-598	615-652	672-710	777-822	846-890	948-986	1287-1332
			1434-1502							
PTERM_ADE02	LARGE TEGUMENT PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	657-696	713-747	804-841	933-972	1117-1158	1415-1471	1528-1562	1572-1620
			1633-1705	1719-1756	1945-1986	2727-2761				
PTERM_ADE05	DNA TERMINAL PROTEIN	HUMAN ADENOVIRUS TYPE 2	490-572							
PTERM_ADE07	DNA TERMINAL PROTEIN	HUMAN ADENOVIRUS TYPE 5	490-592							
PTERM_ADE12	DNA TERMINAL PROTEIN	HUMAN ADENOVIRUS TYPE 7	491-559							

PCGENE	ALLMOTIF	All Viruses (no bacteriophage)							
FILE NAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PTRUN_AV161	DNA TERMINAL PROTEIN	HUMAN ADENOVIRUS TYPE 12	443-491	497-538						
PTMAF_AV154	TRANSFORMING PROTEIN JUN	AVIAN SARCOMA VIRUS (STRAIN 17)	210-284							
PTOP1_SFVKA	TRANSFORMING PROTEIN MAF	AVIAN MUSCULOAPONEUROTIC FIBROSARCOMA VIRUS A543	247-288	291-340						
PTOP2_ASFB7	DNA TOPOISOMERASE	SHOPE FIBROMA VIRUS (STRAIN KASZA)	127-183	289-310						
PTOP2_ASFNG	DNA TOPOISOMERASE II	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	146-180	481-515	601-642	945-979	1038-1093	1123-1162		
PTIS5_SM84V	DNA TOPOISOMERASE II	AFRICAN SWINE FEVER VIRUS (ISOLATE MALAWI LIL 20/1)	146-180	480-514	600-641	902-934	944-978	1038-1091	1122-1161	
PTY5Y_VZVD	PDGF-RELATED TRANSFORMING PROTEIN 7/8-SIS	SIMIAN SARCOMA VIRUS	16-71							
PUBIL_NPVOP	TRYPTOPHYLATE SYNTHASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	215-260							
PUL01_HCMVA	UBIQUITIN-LIKE PROTEIN	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	43-80							
PUL01_HSV11	HYPOTHETICAL PROTEIN UL1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	169-203							
PUL01_HSV2H	PROTEIN UL1	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	94-128							
PUL02_HSVEB	PROTEIN UL2	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN HG52)	92-126							
PUL04_HSV11	GENE 60 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	76-104							
PUL06_EBV	PROTEIN UL6	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	102-136							
PUL06_HCMVA	VIRION PROTEIN BSRF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	104-145	313-347	376-410					
PUL06_HSV11	HYPOTHETICAL PROTEIN UL6	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	216-250							
PUL06_HSVEB	VIRION PROTEIN UL6	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	36-94	103-141	294-329	333-371	416-479			
PUL08_HSV5A	VIRION GENE 56 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	162-170	357-413	448-503					
PUL08_VZVD	VIRION GENE 43 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	90-140	151-194	302-336	384-405				
PUL08_HCMVA	VIRION GENE 54 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	87-121	350-409	704-738					
PUL09_HSVEB	HYPOTHETICAL PROTEIN UL9	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	6-50							
PUL09_VZVD	ORIGIN OF REPLICATION BINDING PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	174-208							
PUL11_HCMVA	ORIGIN OF REPLICATION BINDING PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	122-163							
PUL13_HCMVA	NONSENSE									
PUL14_HCMVA	HYPOTHETICAL PROTEIN UL13	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	47-81	185-227						
PUL14_HSVEB	HYPOTHETICAL PROTEIN UL14	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	305-343							
PUL14_PRVN5	HYPOTHETICAL GENE 48 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	53-96	246-283						
PUL14_VZVD	UL14 PROTEIN HOMOLOG	PSEUDORABIES VIRUS (STRAIN NIA-3)	43-85							
PUL16_HSVEB	HYPOTHETICAL GENE 46 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	61-103							
PUL17_HSV6U	GENE 48 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	266-300							
PUL21_HSVEB	PROTEIN 10R	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102	239-280							
PUL23_HCMVA	GENE 40 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	44-78	421-474						
PUL24_HCMVA	HYPOTHETICAL PROTEIN UL23	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	213-253							
PUL24_ILTVT	HYPOTHETICAL PROTEIN UL24	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	5-39							
PUL25_HCMVA	PROTEIN UL24 HOMOLOG	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN THORNE V18	161-195							
PUL25_HSV11	HYPOTHETICAL PROTEIN UL25	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	255-341	351-399						
PUL25_HSVEB	VIRION PROTEIN UL25	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	378-411							
PUL25_HSV5A	VIRION PROTEIN UL25	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	364-411							
PUL25_ILTVT	VIRION GENE 19 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	28-92	183-231	365-404					
PUL25_VZVD	64.1 KD VIRION PROTEIN	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN THORNE V18	28-84	165-206						
PUL25_HCMVA	VIRION GENE 34 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	240-288							
PUL31_HSVEB	HYPOTHETICAL PROTEIN UL31	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	244-285							
PUL31_VZVD	GENE 29 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	155-187							
PUL32_HSVEB	GENE 27 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	163-197							
PUL32_VZVD	MAJOR ENVELOPE GLYCOPROTEIN 100	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (STRAIN AB1)	342-376							
PUL33_HCMVA	PROBABLE MAJOR ENVELOPE GLYCOPROTEIN 26	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	72-106	296-344						
PUL33_VZVD	C-PROTEIN COUPLED RECEPTOR HOMOLOG UL33	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	94-135	309-352						
PUL34_EBV	GENE 35 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	29-63							
PUL34_HCMVA	BFRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	159-200							
PUL34_HSV11	HYPOTHETICAL PROTEIN UL34	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	113-147							
PUL35_HCMVA	VIRION PROTEIN UL34	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	187-221							
PUL37_EBV	HYPOTHETICAL PROTEIN UL35	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	231-268							

PCGENE	ALLMOTIFS	All Viruses (no bacteriophage)								
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PUL37_HSV11	PROTEIN BOLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	708-742							
PUL37_HSVEB	PROTEIN UL37	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	853-891							
PUL37_HSV5A	GENE 23 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	82-137	311-345	614-648	713-750	781-822			
PUL37_VZVD	GENE 63 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	6-61	682-741						
PUL38_HCMVA	GENE 21 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS).	719-753	786-827						
PUL4_VZVD	HYPOTHETICAL PROTEIN UL38	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	10-51							
PUL40_HSV11	HOST SHUTOFF VIRION PROTEIN	VARICELLA-ZOSTER VIRU" (STRAIN DUMAS)	330-366							
PUL42_HSVEB	DNA-BINDING PROTEIN UL42	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	134-168	221-263						
PUL42_HCMVA	DNA-BINDING GENE 18 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	138-172							
PUL43_HSV84	HYPOTHETICAL PROTEIN UL43	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	72-109							
PUL43_VZVD	MEMBRANE PROTEIN UL43 HOMOLOG	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	27-68							
PUL45_HSV1K	GENE 15 MEMBRANE PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	312-363							
PUL45_HSV1M	PROTEIN UL45	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	96-137							
PUL45_HCMVA	PROTEIN UL45	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN MP)	96-137							
PUL47_HSV11	PROTEIN UL47	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	114-165	448-485	745-856					
PUL47_HSV1F	VIRION PROTEIN UL47	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	473-518							
PUL47_HSV8P	VIRION PROTEIN UL47	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN F	473-518							
PUL47_HSVE4	80.7 KD ALPHA TRANS-INDUCING PROTEIN	BOVINE HERPESVIRUS TYPE 1 (STRAIN P8-2)	561-612							
PUL47_HSVEB	97 KD ALPHA TRANS-INDUCING PROTEIN	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	183-244	582-620	823-866					
PUL47_VZVD	97 KD ALPHA TRANS-INDUCING PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	219-251	371-412	817-866					
PUL50_HCMVA	ALPHA TRANS-INDUCING FACTOR 91.8 KD PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	84-135	136-209	664-701					
PUL51_HSV11	PROTEIN UL50	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	155-189							
PUL51_HSVE4	PROTEIN UL51	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	118-169							
PUL51_HSVEB	GENE 8 PROTEIN	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	131-162							
PUL51_VZVD	GENE 8 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	120-161							
PUL51_EBV	GENE 7 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	122-163							
PUL53_HSV11	PROBABLE DNA REPLICATION PROTEIN BSLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	188-235							
PUL52_HSV5A	DNA REPLICATION PROTEIN UL52	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	189-233							
PUL52_VZVD	PROBABLE DNA REPLICATION GENE 56 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	141-182	929-970						
PUL53_HCMVA	PROBABLE DNA REPLICATION GENE 6 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	445-483							
PUL53_HSV2H	PROTEIN UL53	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	301-342							
PUL54_HCMVA	PROTEIN UL53	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	12-48							
PUL70_HCMVA	HYPOTHETICAL PROTEIN UL54	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN HG52)	151-185							
PUL74_HCMVA	PROBABLE DNA REPLICATION PROTEIN UL70	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	32-73							
PUL77_HSV6U	HYPOTHETICAL PROTEIN UL74	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	39-99							
PUL77_HSV5A	HYPOTHETICAL PROTEIN 5R	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	43-79							
PUL88_HCMVA	HYPOTHETICAL GENE 24 PROTEIN	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	739-770							
PUL91_HSV5A	HYPOTHETICAL PROTEIN UL88	HERPESVIRUS SAIMIRI (STRAIN 11)	364-400	382-416						
PUL91_EBV	HYPOTHETICAL GENE 30 PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	337-391							
PUL92_HCMVA	HYPOTHETICAL PROTEIN BOLF4	HERPESVIRUS SAIMIRI (STRAIN 11)	24-58							
PUL92_HSV6U	HYPOTHETICAL PROTEIN UL92	EPSTEIN-BARR VIRUS (STRAIN B95-8)	107-144	188-222						
PUL92_HSV5A	HYPOTHETICAL PROTEIN 9R	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	79-116							
PUL93_HSV5A	HYPOTHETICAL PROTEIN UL93	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	100-145	174-216						
PUL93_HCMVA	HYPOTHETICAL GENE 31 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	88-122							
PUL95_HCMVA	PROTEIN UL93	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	23-57	299-334						
PUL95_HSV6U	HYPOTHETICAL PROTEIN UL95	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	24-71	259-293						
PUL96_HCMVA	HYPOTHETICAL PROTEIN 11R	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	21-151	213-220						
PUL96_HSV6U	HYPOTHETICAL PROTEIN UL96	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	51-103							
PUL98_HSV5A	HYPOTHETICAL PROTEIN 14R	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	53-113							
PUL9_HCMVA	HYPOTHETICAL GENE 35 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	45-100							
PUL9_HCMVA	HYPOTHETICAL PROTEIN UL102	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	6-40	758-792						
PUL90_HCMVA	VIRION PROTEIN UL104	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	1-56	130-171	330-364	439-492	541-575			

PCGENE	ALLNOTES	All Viruses (no bacteriophages)							
FILE NAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7
PUNG_HSV11	HYPOTHETICAL PROTEIN UL139	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	84-125						
PUNG_HSV23	URACIL-DNA GLYCOSYLASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	227-268						
PUNG_HSV2H	URACIL-DNA GLYCOSYLASE	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN 333)	188-229						
PUNG_HSV2A	URACIL-DNA GLYCOSYLASE	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN HG52)	148-189						
PUNG_SFVKA	URACIL-DNA GLYCOSYLASE	HERPESVIRUS SAIMIRI (STRAIN 11)	133-176						
PU502_HSV2B	URACIL-DNA GLYCOSYLASE	SHOPE FIBROMA VIRUS (STRAIN KASZA)	81-115						
PU502_HSVEK	GENE 44 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	79-120						
PU507_HCMVA	US1 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A)	86-120						
PU511_HCMVA	HYPOTHETICAL PROTEIN HCLF5		2-36						
PU514_HCMVA	HYPOTHETICAL PROTEIN HCLF1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)							
PU518_HCMVA	HYPOTHETICAL PROTEIN HVLF4	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	3-51						
PU533_HCMVA	MEMBRANE PROTEIN HWLF5	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	187-225						
PU534_HCMVA	HYPOTHETICAL PROTEIN HSLF1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	294-335	335-378					
PU536_HCMVA	HYPOTHETICAL PROTEIN HRLF6	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	135-172						
PU537_HCMVA	HYPOTHETICAL PROTEIN HRLF1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	533-584						
PU538_HCMVA	G-PROTEIN COUPLED RECEPTOR HOMOLOG US27	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	6-40						
PV133_AMYLE	HYPOTHETICAL PROTEIN HSDF5	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	135-169	274-312					
PV160_NPVAC	125 KD PROTEIN	ALFALFA MOSAIC VIRUS (STRAIN 425 / ISOLATE LEIDEN	18-52	326-367	391-449				
PV18K_TRVPS	HELICASE	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	313-350	1114-1150	1179-1213				
PV18K_TRVSY	18 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN PSG)	75-117						
PV1A_BBMV	1A KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN SYM)	75-117						
PV1A_BMV	1A PROTEIN	BROAD BEAN MOTTLE VIRUS	21-55	349-401	482-526	710-751	837-884	890-924	
PV1A_CCMV	1A PROTEIN	BROME MOSAIC VIRUS	4-66	348-411					
PV1A_CMVFN	1A PROTEIN	COWPEA CHLOROTIC MOTTLE VIRUS	4-51	242-276	348-389	417-456			
PV1A_CMVQ	1A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN FNY)	11-66	393-434	584-619	868-916			
PV1A_PSVI	1A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN Q)	11-66	393-434	584-619	868-916			
PV1A_TAV	1A PROTEIN	PEANUT STUNT VIRUS (STRAIN J)	4-66	393-434					
PV21K_HSVTH	1A PROTEIN	TOMATO ASPERMY VIRUS	11-59	392-433	837-923				
PV24K_BDV	23.5 KD PROTEIN	TURKEY HERPESVIRUS (STRAIN H2)	177-211	130-171					
PV25K_NPVAC	24 KD ANTIGEN	BOVINA DISEASE VIRUS	63-121						
PV28K_PLAVW	25 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	4-50						
PV29D_ASFL3	28 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN 1)	116-150						
PV29K_PEBV	L15 290 PROTEIN	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN)	116-150						
PV29K_TRVSY	29.6 KD PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN L1577)	138-183						
PV29K_TRVTC	29 KD PROTEIN	EARLY BROWNING VIRUS	115-192						
PV2A_CCMV	29 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN SYM), AND (STRAIN PSG)	167-201						
PV2A_CMVFN	2A PROTEIN	TOBACCO RATTLE VIRUS (STRAIN TCM)	45-79						
PV2A_PSVI	2A PROTEIN	COWPEA CHLOROTIC MOTTLE VIRUS	768-806						
PV2A_TAV	2A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN FNY)	386-430						
PV30K_TRVTC	2A PROTEIN	PEANUT STUNT VIRUS (STRAIN J)	717-751						
PV340_ASFB7	29.1 KD PROTEIN	TOMATO ASPERMY VIRUS	722-756						
PV363_ASFB7	K340 PROTEIN	TOBACCO RATTLE VIRUS (STRAIN TCM)	185-218						
PV363_ASFB7	K343 PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	33-87	131-192					
PV3A_BMV	D343 PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	54-102	161-212	290-324				
PV3A_CMVFN	3A PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	153-199						
PV3A_CMVM	3A PROTEIN	BROME MOSAIC VIRUS	11-45						
PV3A_CMVO	3A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN FNY)	215-255						
PV3A_CMVY	3A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN M)	215-255						
PV3K_ACLSV	3A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN Q)	215-255						
		CUCUMBER MOSAIC VIRUS (STRAIN Y)	215-255						

PCGENE	ALLMOTIFS	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILE NAME	PROTEIN	VIRUS								
PV51K_BWYVP	50 8 KD PROTEIN	APPLE CHLOROTIC LEAF SPOT VIRUS	72-106							
PV51K_BWYVG	50 8 KD PROTEIN	BEET WESTERN YELLOWS VIRUS (ISOLATE FL-1)	113-147	196-233	404-451					
PV51K_BWYVO	51 KD PROTEIN	BEET WESTERN YELLOWS VIRUS (ISOLATE GBI)	113-147	196-233	407-451					
PV54K_PLRV1	51 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN 1)	47-81	438-472						
PV54K_PLRVW	54 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN)	47-81	438-475						
PV54K_BSMV	54 KD PROTEIN	BARLEY STRIPE MOSAIC VIRUS	128-163	333-371						
PV66K_BWYVP	58 KD PROTEIN	BEET WESTERN YELLOWS VIRUS (ISOLATE FL-1)	486-521							
PV70K_PLRV1	66 2 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN 1)	98-144	514-548						
PV70K_PLRVW	69 7 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN)	98-144	409-443	514-548					
PV70K_AMVLE	69 7 KD PROTEIN	ALFALFA MOSAIC VIRUS (STRAIN 425 / ISOLATE LEIDEN)	107-141							
PVA04_VACCC	90 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	33-66	231-275						
PVA04_VACCV	PROTEIN A4	VACCINIA VIRUS (STRAIN WR)	33-66	231-275						
PVA04_VARV	PROTEIN A4	VARIOLA VIRUS	33-66	210-265						
PVA06_VACCC	PROTEIN A6	VACCINIA VIRUS (STRAIN COPENHAGEN)	97-213	316-355						
PVA06_VACCV	PROTEIN A6	VACCINIA VIRUS (STRAIN WR)	96-213	313-354						
PVA06_VARV	PROTEIN A6	VARIOLA VIRUS	97-213	313-358						
PVA08_VACCC	PROTEIN A8	VACCINIA VIRUS (STRAIN COPENHAGEN)	176-236							
PVA08_VARV	PROTEIN A8	VARIOLA VIRUS	176-236							
PVA09_VACCC	PROTEIN A9	VACCINIA VIRUS (STRAIN COPENHAGEN)	46-81							
PVA09_VARV	PROTEIN A9	VARIOLA VIRUS	46-93							
PVA11_VACCC	PROTEIN A11	VACCINIA VIRUS (STRAIN COPENHAGEN)	97-134	141-175	218-283					
PVA11_VARV	PROTEIN A11	VARIOLA VIRUS	98-136	220-284						
PVA12_VACCC	PROTEIN A12	VACCINIA VIRUS (STRAIN COPENHAGEN)	114-148							
PVA12_VARV	PROTEIN A12	VARIOLA VIRUS	111-152							
PVA18_VACCC	34 KD ABORTIVE LATE PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN	433-467							
PVA18_VACCV	34 KD ABORTIVE LATE PROTEIN	VACCINIA VIRUS (STRAIN WR)	307-341	433-467						
PVA18_VARV	34 KD ABORTIVE LATE PROTEIN	VARIOLA VIRUS	307-341	433-467						
PVA20_VACCC	PROTEIN A20	VACCINIA VIRUS (STRAIN COPENHAGEN)	1-67							
PVA20_VARV	PROTEIN A20	VARIOLA VIRUS	1-67							
PVA22_VACCC	PROTEIN A22	VACCINIA VIRUS (STRAIN COPENHAGEN)	28-69							
PVA22_VARV	PROTEIN A22	VARIOLA VIRUS	39-80							
PVA23_VACCC	PROTEIN A23	VACCINIA VIRUS (STRAIN COPENHAGEN)	95-143	173-207	255-289	344-382				
PVA23_VARV	PROTEIN A23	VARIOLA VIRUS	95-143	173-207	255-289	344-382				
PVA31_VARV	PROTEIN A31	VARIOLA VIRUS	88-126							
PVA32_VACCV	PROTEIN A32	VACCINIA VIRUS (STRAIN WR), AND (STRAIN COPENHAGEN								
PVA32_VARV	PROTEIN A32	VARIOLA VIRUS	217-251							
PVA33_VARV	PROTEIN A33	VARIOLA VIRUS	63-97							
PVA34_VACCV	PROTEIN A34 PRECURSOR	VACCINIA VIRUS (STRAIN WR), AND (STRAIN COPENHAGEN)	26-67	109-155						
PVA34_VARV	PROTEIN A34 PRECURSOR	VARIOLA VIRUS	26-67							
PVA37_VACCC	PROTEIN A37	VACCINIA VIRUS (STRAIN COPENHAGEN)	24-65							
PVA37_VACCV	PROTEIN A37	VACCINIA VIRUS (STRAIN WR)	24-65							
PVA38_VACCC	PROTEIN A38	VACCINIA VIRUS (STRAIN COPENHAGEN)	44-91							
PVA38_VACCV	PROTEIN A38	VACCINIA VIRUS (STRAIN WR)	44-91							
PVA38_VARV	PROTEIN A38	VARIOLA VIRUS	44-91							
PVA39_VACCC	PROTEIN A39	VACCINIA VIRUS (STRAIN COPENHAGEN)	37-71							
PVA39_VACCV	PROTEIN A39	VACCINIA VIRUS (STRAIN WR)	75-109							
PVA46_VACCC	PROTEIN A46	VACCINIA VIRUS (STRAIN COPENHAGEN)	81-128							
PVA46_VACCV	PROTEIN A46	VACCINIA VIRUS (STRAIN WR)	81-128							
PVA46_VARV	PROTEIN A46	VARIOLA VIRUS	81-128							
PVA47_VACCC	PROTEIN A47	VACCINIA VIRUS (STRAIN COPENHAGEN)	62-96	143-184						
PVA47_VACCV	PROTEIN A47	VACCINIA VIRUS (STRAIN WR)	62-96	143-184						
PVA47_VARV	PROTEIN A47									

ALLMOTIS
Motif Search Results

PCGENE	ALLMOTIS	All Viruses (no bacteriophages)								
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PVA49_VACCC	PROTEIN A47	VARIOLA VIRUS	62-96	143-184						
PVA49_VACCV	PROTEIN A49	VACCINIA VIRUS (STRAIN COPENHAGEN)	3-40	126-160						
PVA49_VARV	PROTEIN A49	VACCINIA VIRUS (STRAIN WR)	3-40	126-160						
PVA52_VACCC	PROTEIN A49	VARIOLA VIRUS	3-40	126-160						
PVA52_VACCV	PROTEIN A52	VACCINIA VIRUS (STRAIN COPENHAGEN)	91-132							
PVA57_VACCC	PROTEIN A52	VACCINIA VIRUS (STRAIN WR)	91-132							
PVA57_VACCV	GUANYLATE KINASE HOMOLOG	VACCINIA VIRUS (STRAIN COPENHAGEN)	134-168							
PVALI_MISVK	GUANYLATE KINASE HOMOLOG	VACCINIA VIRUS (STRAIN WR)	134-168							
PVALI_MISVN	ALI PROTEIN	MAIZE STREAK VIRUS (KENYAN ISOLATE)	230-269							
PVALI_MISVS	ALI PROTEIN	MAIZE STREAK VIRUS (NIGERIAN ISOLATE)	228-262							
PVALI_SLCV	ALI PROTEIN	MAIZE STREAK VIRUS (SOUTH-AFRICAN ISOLATE)	228-262							
PVALI_TYDVA	ALI PROTEIN	SQUASH LEAF CURL VIRUS	117-151							
PVALI_ABMVW	ALI PROTEIN	TOBACCO YELLOW DWARF VIRUS (STRAIN AUSTRALIA)	191-225							
PVALJ_BGMV	ALJ PROTEIN	ABUTILON MOSAIC VIRUS (ISOLATE WEST INDIA)	44-78	83-124						
PVALJ_PYMVV	ALJ PROTEIN	BEAN GOLDEN MOSAIC VIRUS	44-78	83-124						
PVALJ_SLCV	ALJ PROTEIN	POTATO YELLOW MOSAIC VIRUS (ISOLATE VENEZUELA)	30-78	87-121						
PVALJ_TGMV	ALJ PROTEIN	SQUASH LEAF CURL VIRUS	46-80	91-125						
PVAT_CAMVC	ALJ PROTEIN	TOMATO GOLDEN MOSAIC VIRUS	44-78							
PVAT_CAMVD	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	22-70	84-127						
PVAT_CAMVE	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D/H)	22-70							
PVAT_CAMVN	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN BBC)	22-70	93-127						
PVAT_CAMVP	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY8153)	22-70	93-127						
PVAT_CAMVS	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN PV147)	22-70	93-127						
PVAT_CAMVW	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN STRASBOURG)	22-70	93-130						
PVAT_CERV	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN W260)	36-70							
PVB03_VACCV	APHID TRANSMISSION PROTEIN	CARNATION ETCHED RING VIRUS	99-138							
PVB04_VACCC	PROTEIN B3	VACCINIA VIRUS (STRAIN WR)	108-142							
PVB04_VACCV	PROTEIN B4	VACCINIA VIRUS (STRAIN COPENHAGEN)	89-123	321-372	496-530					
PVB04_VARV	PROTEIN B4	VACCINIA VIRUS (STRAIN WR)	89-123	321-372						
PVB05_VACCO	PROTEIN B4	VARIOLA VIRUS	89-134	324-372	492-530					
PVB05_VACCC	PLAQUE-SIZE / HOST RANGE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN LC16MO)	254-298							
PVB05_VACCL	PLAQUE-SIZE / HOST RANGE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	254-298							
PVB05_VACCV	PLAQUE-SIZE / HOST RANGE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN LISTER)	254-298							
PVB07_VACCV	PLAQUE-SIZE / HOST RANGE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN WR)	254-298							
PVB08_VACCC	PROTEIN B7 PRECURSOR	VACCINIA VIRUS (STRAIN WR), AND (STRAIN COPENHAGEN)	28-62							
PVB08_VACCV	PROTEIN B8 PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	26-60							
PVB18_VACCC	PROTEIN B8 PRECURSOR	VACCINIA VIRUS (STRAIN WR)	26-60							
PVB18_VACCV	PROTEIN B18	VACCINIA VIRUS (STRAIN COPENHAGEN)	337-375	491-532						
PVB18_VARV	PROTEIN B18	VACCINIA VIRUS (STRAIN WR)	337-375	491-532						
PVB19_VACCC	PROTEIN B18	VARIOLA VIRUS	337-378	491-532						
PVB19_VACCD	SURFACE ANTIGEN S PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	87-121							
PVB19_VACCV	SURFACE ANTIGEN S PRECURSOR	VACCINIA VIRUS (STRAIN DAIREN I)	85-119							
PVB20_VACCC	SURFACE ANTIGEN S PRECURSOR	VACCINIA VIRUS (STRAIN WR)	85-119							
PVB21_VACCV	PROTEIN B20	VACCINIA VIRUS (STRAIN COPENHAGEN)	48-85							
PVBLI_BGMV	PROTEIN B21	VACCINIA VIRUS (STRAIN WR)	61-95							
PVBLI_SLCV	BLI PROTEIN	BEAN GOLDEN MOSAIC VIRUS	159-193							
PVBLI_TGMV	BLI PROTEIN	SQUASH LEAF CURL VIRUS	159-193							
PVBRI_BGMV	BLI PROTEIN	TOMATO GOLDEN MOSAIC VIRUS	159-193							
PVBRI_SLCV	BRI PROTEIN	BEAN GOLDEN MOSAIC VIRUS	172-206							
PVBRI_TGMV	BRI PROTEIN	SQUASH LEAF CURL VIRUS	20-41							
PVC03_VACCC	BRI PROTEIN	TOMATO GOLDEN MOSAIC VIRUS	25-59							
PVC02_VACCV	PROTEIN C2	VACCINIA VIRUS (STRAIN COPENHAGEN)	37-82	262-302	391-442					

PCGENE	ALLNOTIS	All Viruses (no bacteriophages)	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1
FILENAME	PROTEIN	VIRUS	37-82	263-303	391-442					
PVC04_SFVKA	PROTEIN C3	VACCINIA VIRUS (STRAIN WR)	175-223	374-408						
PVC04_VACCC	PROTEIN C4	SHOPE FIBROMA VIRUS (STRAIN KASZA)	12-46							
PVC04_VACCV	PROTEIN C4	VACCINIA VIRUS (STRAIN COPENHAGEN)	12-46							
PVC04_VARV	PROTEIN C4	VACCINIA VIRUS (STRAIN WR)	12-46							
PVC05_SFVKA	PROTEIN C4	VARIOLA VIRUS	82-135							
PVC05_VACCC	HYPOTHETICAL PROTEIN C5	SHOPE FIBROMA VIRUS (STRAIN KASZA)	31-68							
PVC05_VACCV	PROTEIN C5	VACCINIA VIRUS (STRAIN COPENHAGEN)	31-68							
PVC05_VARV	PROTEIN C5	VACCINIA VIRUS (STRAIN WR)	32-70	72-121						
PVC08_SFVKA	PROTEIN C3	VARIOLA VIRUS	45-86							
PVC09_SFVKA	HYPOTHETICAL PROTEIN C8	SHOPE FIBROMA VIRUS (STRAIN KASZA)	63-108							
PVC09_VACCC	HYPOTHETICAL PROTEIN C9	SHOPE FIBROMA VIRUS (STRAIN KASZA)	82-116	188-226	289-333	573-612				
PVC09_VACCV	PROTEIN C9	VACCINIA VIRUS (STRAIN COPENHAGEN)	82-116	188-226	289-333	573-612				
PVC10_VACCC	PROTEIN C9	VACCINIA VIRUS (STRAIN WR)	136-180							
PVC10_VACCV	PROTEIN C10	VACCINIA VIRUS (STRAIN COPENHAGEN)	136-176							
PVC10_VARV	PROTEIN C10	VACCINIA VIRUS (STRAIN WR)	136-170							
PVC12_SFVKA	PROTEIN C10	VARIOLA VIRUS	2-36							
PVC13_SFVKA	HYPOTHETICAL PROTEIN C12	SHOPE FIBROMA VIRUS (STRAIN KASZA)	3-46	137-182	189-240					
PVC16_VACCC	PROTEIN C13	SHOPE FIBROMA VIRUS (STRAIN KASZA)	142-176							
PVC17_VACCC	PROTEIN C14B22	VACCINIA VIRUS (STRAIN COPENHAGEN)	100-135	225-259						
PVC18_VACCC	PROTEIN C13B23	VACCINIA VIRUS (STRAIN COPENHAGEN)	40-98							
PVC19_SFVKA	PROTEIN C14B24	VACCINIA VIRUS (STRAIN COPENHAGEN)	56-97							
PVC19_VACCC	PROTEIN C19	SHOPE FIBROMA VIRUS (STRAIN KASZA)	218-252							
PVCAP_EBV	PROTEIN C19B23	VACCINIA VIRUS (STRAIN COPENHAGEN)	136-184	670-709						
PVCAP_HCMVA	MAJOR CAPSID PROTEIN	EPSTEIN-BAAR VIRUS (STRAIN B95-8)	136-174	191-225	260-294					
PVCAP_HSV11	MAJOR CAPSID PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	116-155	308-354						
PVCAP_HSV2U	MAJOR CAPSID PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	116-174	230-266	311-382					
PVCAP_HSV2B	MAJOR CAPSID PROTEIN	HERPES SIMPLEX VIRUS	110-154	304-352						
PVCAP_HSVSA	MAJOR CAPSID PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	478-520	673-714	755-799					
PVCAP_PRVIS	MAJOR CAPSID PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	105-140	292-326						
PVCAP_V2VD	MAJOR CAPSID PROTEIN	PSEUDORABIES VIRUS (STRAIN INDIANA S)	128-198	316-350						
PVCOJ_NPVAC	MAJOR CAPSID PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	110-248							
PVD03_FOWP1	DNA-BINDING PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	145-181							
PVD01_VACCC	92 KD PROTEIN	FOWLPOX VIRUS (STRAIN FP-1)	123-157							
PVD01_VACCV	PROTEIN D5	VACCINIA VIRUS (STRAIN COPENHAGEN)	123-157							
PVD01_VARV	PROTEIN D5	VACCINIA VIRUS (STRAIN WR)	123-157							
PVD09_VACCC	PROTEIN D9	VARIOLA VIRUS	126-160							
PVD09_VACCV	PROTEIN D9	VACCINIA VIRUS (STRAIN COPENHAGEN)	126-160							
PVD09_VARV	PROTEIN D9	VACCINIA VIRUS (STRAIN WR)	126-160							
PVD10_FOWP1	PROTEIN D10	VARIOLA VIRUS	63-99	188-222						
PVD10_SFVKA	PROTEIN D10	FOWLPOX VIRUS (STRAIN FP-1)	4-52							
PVD10_VARV	PROTEIN D10	SHOPE FIBROMA VIRUS (STRAIN KASZA)	67-105							
PVD8P_CANVC	PROTEIN D10	VARIOLA VIRUS	1-35							
PVD8P_CANVD	DNA-BINDING PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	1-35							
PVD8P_CANVE	DNA-BINDING PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D4)	1-35							
PVD8P_CANVN	DNA-BINDING PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN BBC)	1-35							
PVD8P_CANVS	DNA-BINDING PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY8153)	1-35							
PVE03_VACCC	DNA-BINDING PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN STRASBOURG)	1-35							
PVE03_VACCV	PROTEIN E3	VACCINIA VIRUS (STRAIN COPENHAGEN)	282-316							
PVE03_VARV	PROTEIN E3	VACCINIA VIRUS (STRAIN WR)	282-316							
PVE03_VACCC	PROTEIN E3	VARIOLA VIRUS	282-316							
PVE03_VACCV	PROTEIN E3	VACCINIA VIRUS (STRAIN COPENHAGEN)	17-61							
PVE03_VARV	PROTEIN E3	VACCINIA VIRUS (STRAIN WR)	17-61							

PCGENE	ALLNOTES	All Viruses (no bacteriophages)	AREA 1	AREA 1	AREA 2	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
FILENAME	PROTEIN	VIRUS								
PVE05_VACCC	PROTEIN E3	VARIOLA VIRUS	17-61							
PVE05_VACCD	PROTEIN E3	VACCINIA VIRUS (STRAIN COPENHAGEN)	38-91							
PVE05_VACCV	PROTEIN E3	VACCINIA VIRUS (STRAIN DAIREN I)	38-103							
PVE05_VARV	PROTEIN E3	VACCINIA VIRUS (STRAIN WR)	38-103							
PVE06_VACCC	PROTEIN E5	VARIOLA VIRUS	38-103							
PVE06_VACCV	PROTEIN E6	VACCINIA VIRUS (STRAIN COPENHAGEN)	105-139	233-366						
PVE06_VARV	PROTEIN E6	VACCINIA VIRUS (STRAIN WR)	105-139	232-366						
PVE18_NPVAC	PROTEIN E6	VARIOLA VIRUS	105-139	367-401						
PVE1_HPV1A	EARLY 18.5 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	112-163							
PVE1_HPV31	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 1A	137-171							
PVE1_HPV33	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31	56-90							
PVE1_HPV35	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	33-67	133-167						
PVE1_HPV39	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 35	56-90							
PVE1_HPV41	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 39	56-90	312-344						
PVE1_HPV42	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	33-67							
PVE1_HPV58	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 42	33-67	119-174						
PVE1_HPV68	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	265-299							
PVE1_PAPVE	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 68	176-210							
PVE34_NPVAC	E1 PROTEIN	EUROPEAN ELK PAPILLOMAVIRUS	72-117							
PVE2_CRPVK	EARLY 25.9 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	3-44							
PVE2_HPV05	PROBABLE E2 PROTEIN	COTTONTAIL RABBIT (SHOPE) PAPILLOMAVIRUS (STRAIN KANS	5-57	276-310	342-383	437-471				
PVE2_HPV06	PROBABLE E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 5	5-55	146-182						
PVE2_HPV16	PROBABLE E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6	61-105	315-349						
PVE2_HPV18	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	65-100							
PVE2_HPV1A	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 18	3-37	158-193						
PVE2_HPV2A	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 1A	13-47	158-193						
PVE2_HPV31	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 2A	61-105							
PVE2_HPV33	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31	63-101	297-331						
PVE2_HPV35	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	62-106	158-193						
PVE2_HPV39	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 35	74-110	333-357						
PVE2_HPV41	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 39	6-54							
PVE2_HPV47	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	5-53	146-182						
PVE2_HPV51	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 47	154-191							
PVE2_HPV52	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 51	13-47	159-213						
PVE2_HPV56	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 52	3-36							
PVE2_HPV58	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 56	5-57							
PVE2_PAPVD	PROBABLE E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	107-141							
PVE2_PAPVE	PROBABLE E2 PROTEIN	DEER PAPILLOMAVIRUS	111-150							
PVE2_RCPVI	PROBABLE E2 PROTEIN	EUROPEAN ELK PAPILLOMAVIRUS	118-361							
PVE2_RHPV1	E2 PROTEIN	PYGMY CHIMPANZEE PAPILLOMAVIRUS TYPE 1	62-106	307-341						
PVE39_NPVOP	E2 PROTEIN	RHESUS PAPILLOMAVIRUS TYPE 1	20-57							
PVE4_HPV1B	EARLY 39 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	119-156							
PVE4_HPV41	EARLY 39 KD PROTEIN	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	42-84							
PVE5_HPV58	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 18	63-97							
PVEF_OVTN	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	5-40	96-130						
PVENV_BEV	PROBABLE E5 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	681-719							
PVENV_DHV1	VIRAL ENHANCING FACTOR (VEF) (104 KD GLYCOP	TRICHOPLUSIA NI GRANULOSIS VIRUS (TNGV)	191-229							
PVENV_MCV1	ENVELOPE PROTEIN	BERNE VIRUS (BEV)	316-366							
PVENV_MCV2	ENVELOPE GLYCOPROTEIN PRECURSOR	DHORI VIRUS (STRAIN INDIAN/1313/61) (DHO)	232-286							
PVENV_THGV	MAJOR ENVELOPE PROTEIN (43 KD PROTEIN) (P43K	MOLLUSCUM CONTAGIOSUM VIRUS SUBTYPE 1 (MCV1)	232-286							
PVENV_VACCC	MAJOR ENVELOPE PROTEIN (43 KD PROTEIN) (P43K	MOLLUSCUM CONTAGIOSUM VIRUS SUBTYPE 2 (MCV2)	313-334							
	ENVELOPE GLYCOPROTEIN PRECURSOR (SURFACE	THOGOTO VIRUS (THO)								

PGENE	ALLANOTES	All Viruses (no bacteriophages)								
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PVENV_VACCI	MAJOR ENVELOPE PROTEIN (37 KD PROTEIN) (P37K)	VACCINIA VIRUS (STRAIN COPENHAGEN)	237-295							
PVENV_VACCP	MAJOR ENVELOPE PROTEIN (37 KD PROTEIN) (P37K)	VACCINIA VIRUS (STRAIN IHD-J)	237-295							
PVENV_VACCV	MAJOR ENVELOPE PROTEIN (37 KD PROTEIN) (P37K)	VACCINIA VIRUS (STRAIN L-IVP)	237-295							
PVENV_VARV	MAJOR ENVELOPE PROTEIN (37 KD PROTEIN) (P37K)	VACCINIA VIRUS (STRAIN WR)	237-295							
PVE13_NPVAC	MAJOR ENVELOPE PROTEIN (37 KD PROTEIN) (P37K)	VARIOLA VIRUS	237-295							
PVT01_VACCC	ECORI-T SITE PROTEIN ETS	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	1-33							
PVT01_VACCV	PROTEIN F1	VACCINIA VIRUS (STRAIN COPENHAGEN), AND VACCINIA VIRUS	46-90	124-158						
PVT03_VACCC	PROTEIN F1 (FRAGMENT)	VACCINIA VIRUS (STRAIN WR)	46-90	124-158						
PVT03_VACCV	PROTEIN F3	VACCINIA VIRUS (STRAIN COPENHAGEN)	71-110							
PV103_VACCC	PROTEIN F3	VACCINIA VIRUS (STRAIN WR)	71-110							
PV105_VACCP	36 KD MAJOR MEMBRANE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	81-129	282-320						
PVT09_VACCV	36 KD MAJOR MEMBRANE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN L-IVP)	81-129	282-320						
PVT09_VARV	36 KD MAJOR MEMBRANE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN WR)	81-129	283-321						
PVT09_VACCC	36 KD MAJOR MEMBRANE PROTEIN PRECURSOR	VARIOLA VIRUS	81-123	281-323						
PVT11_VACCC	PROTEIN F6	VARIOLA VIRUS	8-44							
PVT11_VACCP	PROTEIN F11	VACCINIA VIRUS (STRAIN COPENHAGEN)	217-258	269-315						
PVT11_VARV	PROTEIN F11	VACCINIA VIRUS (STRAIN L-IVP)	213-254	265-311						
PVT12_VACCC	PROTEIN F11	VARIOLA VIRUS	41-75	269-315						
PVT13_VACCP	PROTEIN F12	VACCINIA VIRUS (STRAIN COPENHAGEN)	1-67	102-143	199-236	330-388	544-581			
PVT13_VARV	PROTEIN F12	VACCINIA VIRUS (STRAIN L-IVP)	1-67	102-143	199-236	330-388	544-581			
PVT16_VACCC	PROTEIN F12	VARIOLA VIRUS	1-67	102-143	199-236	330-388	547-581			
PVT15_VACCP	PROTEIN F16	VACCINIA VIRUS (STRAIN COPENHAGEN)	135-194							
PVT16_VARV	PROTEIN F16	VACCINIA VIRUS (STRAIN L-IVP)	135-194							
PVT23_FOWPV	PROTEIN F16	VARIOLA VIRUS	135-194							
PVT24_FOWPV	PROTEIN F23	FOWLPOX VIRUS	1-43							
PVT27_FOWPV	PROTEIN F24	FOWLPOX VIRUS	139-173	226-273						
PVTPE_FOWPI	PROTEIN F27	FOWLPOX VIRUS	23-57							
PVTU5_VACCC	EPLEET PROTEIN (FRAGMENT)	FOWLPOX VIRUS (STRAIN FP-1)	77-111							
PVTU5_VACCV	14 KD FUSION PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	10-64							
PVG01_HSV11	14 KD FUSION PROTEIN	VACCINIA VIRUS (STRAIN WR)	10-64							
PVG01_VACCC	HYPOTHETICAL GENE 1 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	271-306	312-363	391-447	730-764				
PVG01_VACCV	PROTEIN G1	VACCINIA VIRUS (STRAIN COPENHAGEN)	301-339							
PVG01_VARV	PROTEIN G1 (FRAGMENT)	VACCINIA VIRUS (STRAIN WR)	266-298							
PVG03_HSVEB	PROTEIN G1	VARIOLA VIRUS	301-339							
PVG03_HSVEK	GENE 3 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (EHV-1)	143-177							
PVG03_VARV	GENE 3 PROTEIN (ORF L1)	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A) (EHV-1)	143-177							
PVG05_VACCC	PROTEIN G3	VARIOLA VIRUS	64-98							
PVG05_VARV	PROTEIN G3	VACCINIA VIRUS (STRAIN COPENHAGEN)	117-158	255-289	335-389					
PVG06_HSV11	PROTEIN G5	VARIOLA VIRUS	117-158	255-289	335-389					
PVG07_HSV11	HYPOTHETICAL GENE 6 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	61-109							
PVG07_VACCC	HYPOTHETICAL GENE 7 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	69-103							
PVG07_VARV	PROTEIN G7	VACCINIA VIRUS (STRAIN COPENHAGEN)	114-175	324-358						
PVG09_VACCC	PROTEIN G7	VARIOLA VIRUS	114-175	324-358						
PVG09_VACCV	PROTEIN F1 (PROTEIN G9)	VACCINIA VIRUS (STRAIN COPENHAGEN)	304-338							
PVG09_VARV	PROTEIN F1 (PROTEIN G9) (FRAGMENT)	VACCINIA VIRUS (STRAIN WR)	304-338							
PVG10_HSV11	PROTEIN F1 (PROTEIN G9)	VARIOLA VIRUS	304-338							
PVG12_SPV1R	HYPOTHETICAL GENE 10 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	83-97							
PVG16_HSVSA	GENE 12 PROTEIN	SPIROPLASMA VIRUS SPV1-KIAS B	11-45							
PVG17_HSV11	HYPOTHETICAL GENE 16 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	38-95							
PVG18_HSV11	HYPOTHETICAL GENE 17 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	92-129	177-211						
PVG1L_AMEPV	HYPOTHETICAL GENE 18 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	176-208	213-246						
PVG1_SPV1R	G1L PROTEIN	AMSACTA MOOREI ENTOMOPOXVIRUS (AMEPV)	407-441							

PEGLNK	ALLNOTES	All Viruses (no bacteriophage)								
FILENAME	FEATURE	VIRUS	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1
PVG1_SPV4	CAPSID PROTEIN	SPIROPLASMA VIRUS SPV1-RIAI B	110-170	336-397	320-337					
PVG12_IISV11	CAPSID PROTEIN	SPIROPLASMA VIRUS 4 (SPV4)	287-331							
PVG10_IISV11	HYPOTHETICAL GENE 32 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	117-158	437-479	660-692	899-1015				
PVG37_IISV11	HYPOTHETICAL GENE 24 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	7-73	74-108						
PVG38_IISV11	HYPOTHETICAL GENE 27 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	164-219							
PVG08_ANEPV	HYPOTHETICAL GENE 28 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	253-290							
PVG1_SPV1R	HYPOTHETICAL GIR PROTEIN	ANISACTA NIGROEI ENTOMOPOXVIRUS (ANEPV)	39-63	184-218						
PVG1_SPV4	GENE 1 PROTEIN	SPIROPLASMA VIRUS SPV1-RIAI B	222-256	285-326						
PVG11_IISV11	GENE 1 PROTEIN	SPIROPLASMA VIRUS 4 (SPV4)	155-110							
PVG10_IISV11	HYPOTHETICAL GENE 31 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	149-183							
PVG15_IISV11	HYPOTHETICAL GENE 34 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	145-179							
PVG37_IISV11	HYPOTHETICAL GENE 35 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	17-90							
PVG38_IISV11	HYPOTHETICAL GENE 37 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV	435-472							
PVG09_IISV11	HYPOTHETICAL GENE 38 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	84-118							
PVG01_SPV1R	HYPOTHETICAL GENE 39 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	124-158	206-100						
PVG1_SPV4	GENE 1 PROTEIN	SPIROPLASMA VIRUS SPV1-RIAI B	8-49	162-196	203-244					
PVG43_IISV11	GENE 1 PROTEIN	SPIROPLASMA VIRUS 4 (SPV4)	6-36	81-121						
PVG43_IISV5A	HYPOTHETICAL GENE 41 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	116-150	262-296	324-361	641-677				
PVG44_IISV11	HYPOTHETICAL GENE 43 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	121-162							
PVG08_IISV11	PROBABLE MAJOR GLYCOPROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	43-86	939-1078	1231-1321					
PVG48_IISV5A	HYPOTHETICAL GENE 48 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	168-207							
PVG49_IISV5A	HYPOTHETICAL GENE 48 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	360-417	617-666	723-767					
PVG49_ANEPV	HYPOTHETICAL GENE 49 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	68-102							
PVG4_SPV4	GOR PROTEIN	ANISACTA NIGROEI ENTOMOPOXVIRUS (ANEPV)	4-38							
PVG11_IISV11	GENE 4 PROTEIN	SPIROPLASMA VIRUS 4 (SPV4)	69-110							
PVG11_IISV5A	HYPOTHETICAL GENE 51 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	34-71	89-121						
PVG11_IISV11	GENE 51 GLYCOPROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	29-70	123-157	182-196					
PVG10_IISV11	HYPOTHETICAL GENE 53 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	67-127							
PVG13_IISV11	HYPOTHETICAL GENE 54 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	155-196							
PVG15_IISV5A	HYPOTHETICAL GENE 55 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	101-135							
PVG56_IISV11	HYPOTHETICAL GENE 55 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	126-178							
PVG59_IISV11	HYPOTHETICAL GENE 56 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	131-193	528-613	644-678	730-784	846-880	1111-1145		
PVG59_HSV5A	HYPOTHETICAL GENE 59 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	10-72	89-123						
PVG1_SPV1R	GENE 59 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	169-209							
PVG61_IISV11	GENE 1 PROTEIN	SPIROPLASMA VIRUS SPV1-RIAI B	65-103							
PVG63_IISV11	HYPOTHETICAL GENE 61 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	281-299							
PVG63_IISV11	HYPOTHETICAL GENE 63 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	546-584							
PVG64_IISV11	HYPOTHETICAL GENE 65 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	801-839	1211-1254						
PVG67_IISV11	HYPOTHETICAL GENE 66 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	134-188	358-410						
PVG68_IISV11	HYPOTHETICAL GENE 67 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	379-411	501-546	1321-1369	1478-1541				
PVG72_IISV11	HYPOTHETICAL GENE 68 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	245-288							
PVG73_IISV11	HYPOTHETICAL GENE 73 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	441-484	723-737	913-949					
PVG8_SPV1R	HYPOTHETICAL GENE 33 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	271-305	388-433						
PVGF1_IBVB	GENE 8 PROTEIN	SPIROPLASMA VIRUS SPV1-RIAI B	5-51							
PVG10_JHCMVA	F1 PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE) (I	142-179	1333-1367	2119-2154	3388-3424	3475-3513	3517-3554	3761-3795	
PVGL1_CVBH	GLYCOPROTEIN (GX) PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	192-179	1333-1367	2119-2154	3388-3424	3475-3513	3517-3554	3761-3795	
PVGL1_CVBF	E1 GLYCOPROTEIN PRECURSOR (MATRIX GLYCOP	PORCINE RESPIRATORY CORONAVIRUS (STRAIN 86/13780/4 / BU	213-257							
PVGL1_CVBL9	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPRO	BOVINE CORONAVIRUS (STRAIN F15)	642-676	836-885	993-1041	1263-1305				
PVGL1_CVBLY	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPRO	BOVINE CORONAVIRUS (STRAIN LY)	836-881	993-1109	1263-1305					
PVGL1_CVBN	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPRO	BOVINE CORONAVIRUS (STRAIN LY-138)	641-676	836-885	993-1109	1263-1305				
PVGL1_CVBQ	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPRO	BOVINE CORONAVIRUS (STRAIN MEBUS	642-676	836-885	993-1109	1263-1305				
PVGL1_CVBV	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPRO	BOVINE CORONAVIRUS (STRAIN QUEBEC)	642-676	836-885	993-1109	1263-1305				

PEGLNC	ALLANOTES	All Viruses (no bacteriophage)	AREA 1	AREA 1	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
ENVELOPE	PROTEIN	VIRUS							
PVGL1_CVHJ2	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPRO	BOVINE CORONAVIRUS (STRAIN VACCINE)	642-676	910-985	993-1109	1267-1365			
PVGL1_CVH22	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPRO	HUMAN CORONAVIRUS (STRAIN 229E)	770-816	1015-1113					
PVGL1_CVMJH	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPRO	MURINE CORONAVIRUS MHV (STRAIN WILD TYPE 4) (MHV-4)	643-686	1001-1117	1270-1315				
PVGL1_CVMJ5	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPRO	MURINE CORONAVIRUS MHV (STRAIN A59)	591-633	949-1079	1318-1365				
PVGL1_CVMJC	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPRO	MURINE CORONAVIRUS MHV (STRAIN JHMV / VARIANT CL-2)	643-686	1001-1117	1270-1315				
PVGL1_CVMJH	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPRO	MURINE CORONAVIRUS MHV (STRAIN JHMV)	590-647	940-976	1119-1174				
PVGL1_CVPJS	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPRO	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (S	69-110	448-483	692-731	889-923	1040-1186	1332-1389	
PVGL1_CVPJH	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPRO	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (S	69-110	448-483	692-731	889-923	1040-1186	1332-1389	
PVGL1_CVPPU	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPRO	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (S	70-110	446-480	690-731	887-921	1038-1184	1330-1387	
PVGL1_CVPPU	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPRO	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (S	69-110	446-480	690-731	887-921	1038-1184	1330-1387	
PVGL1_CVPRS	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPRO	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (S	69-110	448-509	665-699	816-963	1138-1165		
PVGL1_CVPRH	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPRO	PORCINE RESPIRATORY CORONAVIRUS (STRAIN RM1)7004 / RM1)	224-258	448-509	665-699	816-963	1138-1165		
PVGL1_CVPRT	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPRO	PORCINE RESPIRATORY CORONAVIRUS (STRAIN RM4) (PRCV)	224-258	448-509	665-699	816-963	1138-1165		
PVGL1_EBV	E2 GLYCOPROTEIN PRECURSOR (SPIKE GLYCOPRO	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (S	69-110	446-480	690-731	887-921	1038-1184	1330-1387	
PVGL1_FIPV	PROBABLE MEMBRANE GLYCOPROTEIN		68-101						
PVGL1_IBVB	E2 GLYCOPROTEIN PRECURSOR	FELINE INFECTIOUS PERITONITIS VIRUS (STRAIN 79-1146)	189-245	431-483	693-736	892-926	1043-1189	1335-1393	
PVGL1_IBVB	E2 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN M41)	191-961	1057-1091					
PVGL1_IBVD2	E2 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	437-478	772-904	1016-1090				
PVGL1_IBVK	E2 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN D274)	731-961	1057-1091					
PVGL1_IBVM	E2 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN KB8533)	437-478	772-904	1016-1090				
PVGL1_MCMJVA	E2 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN M41)	437-478	772-904	1016-1090				
PVGLB_HCMJV1	GLYCOPROTEIN B PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	43-88	128-163	416-484	844-878			
PVGLB_HCMJV7	GLYCOPROTEIN B PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	23-58	128-163	417-478	431-483	845-879		
PVGLB_HSV11	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	828-890						
PVGLB_HSV1F	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN F)	831-889						
PVGLB_HSV1K	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	827-889						
PVGLB_HSV1P	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN PATTON)	828-890						
PVGLB_HSV1J	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN JJJ)	828-890						
PVGLB_HSV1H	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN HG52)	828-890						
PVGLB_HSV1S	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN SAB)	817-871						
PVGLB_HSV1U	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN UGANDA-1102)	771-71	185-223					
PVGLB_HSV1Y	GLYCOPROTEIN B	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	770-813						
PVGLB_HSV2B	GLYCOPROTEIN I PRECURSOR	BOVINE HERPESVIRUS TYPE 1	468-474	748-903					
PVGLB_HSV2BC	GLYCOPROTEIN B-1 PRECURSOR	BOVINE HERPESVIRUS TYPE 2 (STRAIN BH1)	861-900						
PVGLB_HSV2E1	GLYCOPROTEIN I PRECURSOR	BOVINE HERPESVIRUS TYPE 1 (STRAIN COOPER)	342-376	911-961					
PVGLB_HSV2E4	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (ISOLATE HVS15A)	474-513	911-960					
PVGLB_HSV2EA	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	342-376	911-961					
PVGLB_HSV2EB	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB1)	342-376	911-961					
PVGLB_HSV2EL	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	342-376	911-961					
PVGLB_HSV2HD	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY D)	342-376	910-960					
PVGLB_HSV5A	GLYCOPROTEIN B PRECURSOR	MAREK'S DISEASE HERPESVIRUS (STRAIN RB-1B)	190-233	649-681	787-821				
PVGLB_MCMJV5	GLYCOPROTEIN B PRECURSOR	HERPESVIRUS SAIMIRI (STRAIN 11)	240-288	666-697					
PVGLB_PRVIF	GLYCOPROTEIN B PRECURSOR	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	206-260	427-475	691-734	744-778	1040-1094		
PVGLB_VZVD	GLYCOPROTEIN GII PRECURSOR	PSEUDORABIES VIRUS (STRAIN INDIANA-FUNKHAUSER / BECKE	847-881						
PVGLC_HSV11	GLYCOPROTEIN GII PRECURSOR	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	92-131	596-630	109-867				
PVGLC_HSV1I	GLYCOPROTEIN C PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	469-510						
PVGLC_HSV1K	GLYCOPROTEIN C PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	468-510						
PVGLC_HSV1	GLYCOPROTEIN C PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1)	442-476						
PVGLC_HSV2I	GLYCOPROTEIN C PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN 333)	443-477						
PVGLC_HSV2BC	GLYCOPROTEIN C PRECURSOR	BOVINE HERPESVIRUS TYPE 1 (STRAIN COOPER)	1135-1169						
PVGLC_HSV2B	GLYCOPROTEIN GIII PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB1P) AND (STRAIN KEN	182-218						
PVGLC_HSV5B	GLYCOPROTEIN C PRECURSOR	MAREK'S DISEASE HERPESVIRUS (STRAIN BC-1)	63-97						
PVGLC_HSV5G	SECRETORY GLYCOPROTEIN GP137 PRECURSOR	MAREK'S DISEASE HERPESVIRUS (STRAIN RB-1B)	63-97						
PVGLC_HSV5H	SECRETORY GLYCOPROTEIN GP137 PRECURSOR	MAREK'S DISEASE HERPESVIRUS (STRAIN GA)	63-96						

FEATURE	ALLNOTES	All Viruses (no Retroviruses)							
FILENAME	CAOTION	VIRUS	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1
PYGLC_PRVF	SECRETORY GLYCOPROTEIN GP74 PRECURSOR	MAREK'S DISEASE HERPESVIRUS (STRAIN JM/5)	61-97						
PYGLC_VZVD	GLYCOPROTEIN GIII PRECURSOR	PSEUDORABIES VIRUS (STRAIN SHOPE / BECKE	103-235						
PYGLC_VZVE	GLYCOPROTEIN GPV	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	206-331						
PYGLD_HSVEA	GLYCOPROTEIN GPV	VARICELLA-ZOSTER VIRUS (STRAIN SCOTT)	206-331						
PYGLD_HSVEB	GLYCOPROTEIN D PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB1)	89-123						
PYGLD_HSVTK	GLYCOPROTEIN D PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN ABRP) AND (STRAIN KEN	119-153						
PYGLE_HSVIL	GLYCOPROTEIN D PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A)	119-153						
PYGLE_HSV2	GLYCOPROTEIN E PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	111-145						
PYGLF_HSVEA	GLYCOPROTEIN E PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2)	111-159						
PYGLF_HSVC	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A1/900)	146-203	504-543					
PYGLF_HSVTR	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN COPENHAGE	146-203	367-303	506-547				
PYGLF_CDVO	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN RB94)	146-203	367-303	506-547				
PYGLF_HRSVI	FUSION GLYCOPROTEIN PRECURSOR	CANINE DISTEMPER VIRUS (STRAIN ONDERSTEPOORT)	220-297	368-403	506-549				
PYGLF_HRSVA	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAI	116-203	367-303	506-549				
PYGLF_HRSVL	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2	116-203	367-303	506-549				
PYGLF_HRSVB	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP A / STRAI	116-203	367-303	506-547				
PYGLF_MEASE	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN 8/85-2)	116-202	367-302	504-549				
PYGLF_MEASI	FUSION GLYCOPROTEIN PRECURSOR	MEASLES VIRUS (STRAIN EDMONSTON) AND (STRAIN HALLE)	116-180	228-269	455-500				
PYGLF_MEASY	FUSION GLYCOPROTEIN PRECURSOR	MEASLES VIRUS (STRAIN IP-3-CA)	119-187	231-272	455-503				
PYGLF_MUMPI	FUSION GLYCOPROTEIN PRECURSOR	MEASLES VIRUS (STRAIN YANAGATA-1)	116-184	228-269	455-500				
PYGLF_MUMPA	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN SBL-1)	20-54	101-139	235-272	441-502			
PYGLF_MUMPS	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN HIYAMARA VACCINE)	20-54	101-139	235-272	441-502			
PYGLF_NDVA	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN KW)	20-54	101-139	235-272	441-502			
PYGLF_NDVB	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN SBL)	20-54	101-139	235-272	441-502			
PYGLF_NDVB	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA-VICTORIA/32	117-181	231-272	426-512				
PYGLF_NDVHI	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C/45)	122-182	231-272	426-517				
PYGLF_NDVI	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN HERTS)	117-182	231-272	426-517				
PYGLF_NDVL	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN BI-HITCHNER/47)	122-182	231-272	426-517				
PYGLF_NDVM	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN ITALIEN/45)	122-182	231-272	426-517				
PYGLF_NDVQ	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN LASOTA)	122-182	231-272	426-517				
PYGLF_NDVT	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN MIYADERA/51)	117-182	231-272	426-513				
PYGLF_NDVTG	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN QUEENSLAND/66)	122-182	231-272	426-513				
PYGLF_NDVU	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN TEXAS)	117-182	231-272	426-517				
PYGLF_PHODV	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN TEXAS GB/48)	122-182	231-272	426-517				
PYGLF_PIIHC	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN ULSTER/67)	122-182	231-272	426-512				
PYGLF_PIIH	FUSION GLYCOPROTEIN PRECURSOR	PHOCINE DISTEMPER VIRUS	19-61	197-266	309-350	533-581			
PYGLF_PIIIG	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C35)	123-176	207-267	458-509				
PYGLF_PIIH1	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 1 VIRUS	93-183	477-538					
PYGLF_PIIB	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN GREEN)	93-183	477-538					
PYGLF_PIIIH	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSHIBA)	91-185	477-538					
PYGLF_RINDK	FUSION GLYCOPROTEIN PRECURSOR	BOVINE PARAINFLUENZA 3 VIRUS	117-183	207-241	456-518				
PYGLF_RINDL	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	117-182	207-241	482-532				
PYGLF_SENDJ	FUSION GLYCOPROTEIN PRECURSOR	KUNDERPEST VIRUS (STRAIN KABETE O)	112-186	226-265	458-493				
PYGLF_SENDF	FUSION GLYCOPROTEIN PRECURSOR	RINDERPEST VIRUS (STRAIN LI)	112-186	226-265	446-506				
PYGLF_SENDI	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN 2 / HOST MUTANTS)	122-188	211-271	483-533				
PYGLF_SENDJ	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN FUSHIMI)	122-188	211-271	483-533				
PYGLF_SENDI	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN HARRIS)	122-188	210-271	483-533				
PYGLF_SENDZ	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN HVJ)	122-188	211-271	483-533				
PYGLF_SVI1	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN Z)	122-188	211-271	483-533				
PYGLF_SVI	FUSION GLYCOPROTEIN PRECURSOR	SIMIAN VIRUS 41	96-186	434-508					
PYGLG_TRIV	FUSION GLYCOPROTEIN PRECURSOR	SIMIAN VIRUS 5 (STRAIN W3)	103-171	241-279	451-487				
PYGLG_HTFV	FUSION GLYCOPROTEIN PRECURSOR	TURKEY RHINOTRACHEITIS VIRUS	105-161	190-224	455-498				

All Viruses (no bacteriophage)

PEGLNC	ALLANOTES	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
PVGLB_BRSVC	SPIKE GLYCOPROTEIN PRECURSOR	BOVINE EPHEMERAL FEVER VIRUS	306-413						
PVGLG_BRSVC	MAJOR SURFACE GLYCOPROTEIN G	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN COPENHAGE	30-70	104-138					
PVGLG_HRSV1	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAI	30-81						
PVGLG_HRSV1	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN RSB043)	30-85						
PVGLG_HRSV1	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN RSB1334	30-85						
PVGLG_HRSV4	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN RSB4933)	30-107						
PVGLG_HRSV5	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN RSB6190)	30-85						
PVGLG_HRSV7	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN RSB6236)	30-85						
PVGLG_HRSV8	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN RSB6414)	30-85						
PVGLG_HRSVA	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAI	30-81						
PVGLG_HRSVB	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	30-87						
PVGLG_HRSVL	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP A / STRAI	31-85						
PVGLG_HSV24	MAJOR SURFACT. GLYCOPROTEIN G	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	271-305						
PVGLG_SIGNA	GLYCOPROTEIN G PRECURSOR	SIGMA VIRUS	344-381	464-498					
PVGLG_SYNV	SPIKE GLYCOPROTEIN PRECURSOR	SONCHUS YELLOW NET VIRUS	488-523						
PVGLG_VSIVO	SPIKE GLYCOPROTEIN PRECURSOR	VIRAL HEMORRHAGIC SEPTICEMIA VIRUS (STRAIN 07-71)	363-397						
PVGLG_VSVIG	SPIKE GLYCOPROTEIN PRECURSOR	VESICULAR STOMATITIS VIRUS (SEROTYPE INDIANA / STRAIN C	426-510						
PVGLH_EBV	GLYCOPROTEIN GP85 PRECURSOR	EPSTEIN-BARR VIRUS (STRAIN B95-8)	33-87	160-201	336-380	653-694			
PVGLH_HCMVA	GLYCOPROTEIN H PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	103-137	270-311	693-741				
PVGLH_HCMVT	GLYCOPROTEIN H PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	102-136	692-740					
PVGLH_HSV11	GLYCOPROTEIN H PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	447-481						
PVGLH_HSV1E	GLYCOPROTEIN H PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN HFEM)	447-481						
PVGLH_HSV8G	GLYCOPROTEIN H PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 8 / STRAIN G5)	333-406						
PVGLH_HSVEC	GLYCOPROTEIN H PRECURSOR	BOVINE HERPESVIRUS TYPE 1 (STRAIN COOPER)	364-416						
PVGLH_HSVE4	GLYCOPROTEIN H PRECURSOR	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	334-389	414-455					
PVGLH_HSVEB	GLYCOPROTEIN H PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) AND (ISOLATE HV	337-372	407-448					
PVGLH_HSVSA	GLYCOPROTEIN H PRECURSOR	HERPESVIRUS SAIMIRI (STRAIN 11)	13-46	374-413	664-712				
PVGLH_MCMVS	GLYCOPROTEIN H PRECURSOR	MURINE CYTOMEGALOVIRUS (STRAIN SMITH	440-474						
PVGLH_PRVKA	GLYCOPROTEIN H PRECURSOR	PSEUDORABIES VIRUS (STRAIN KAPLAN)	238-160						
PVGLH_PRVNJ	GLYCOPROTEIN H PRECURSOR	PSEUDORABIES VIRUS (STRAIN NIA-3)	238-160						
PVGLH_PRVU	GLYCOPROTEIN H PRECURSOR	PSEUDORABIES VIRUS (STRAIN RICE)	238-160						
PVGLH_VZVD	GLYCOPROTEIN H PRECURSOR	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	455-506						
PVGLH_HCMVA	PROBABLE GLYCOPROTEIN H PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	47-111	223-259					
PVGLM_BUNGE	IMMEDIATE EARLY GLYCOPROTEIN PRECURSOR	BUNYAVIRUS GERMISTON	112-167	613-737	1228-1262				
PVGLM_BUNLT	M POLYPROTEIN PRECURSOR	BUNYAVIRUS LA CROSSE (ISOLATE L74)	643-677	916-950					
PVGLM_BUNSH	M POLYPROTEIN PRECURSOR	BUNYAVIRUS SNOWSHOE HARE	643-677						
PVGLM_BUNYW	M POLYPROTEIN PRECURSOR	BUNYAMWERA VIRUS	340-374	504-561	905-958				
PVGLM_DUGBV	M POLYPROTEIN PRECURSOR	DUGBE VIRUS	911-969	1219-1300					
PVGLM_HANTB	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN B-1)	693-727						
PVGLM_HANTH	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN HOJO)	72-106						
PVGLM_HANTL	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN LEE)	72-106						
PVGLM_HANTV	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN 76-118)	72-106						
PVGLM_PHV	M POLYPROTEIN PRECURSOR	IMPATIENS NECROTIC SPOT VIRUS	1067-1101						
PVGLM_PTPV	M POLYPROTEIN PRECURSOR	PROSPECT HILL VIRUS	72-111						
PVGLM_SEOUB	M POLYPROTEIN PRECURSOR	PUNTA TORO PHLEBOVIRUS	149-181						
PVGLM_SEOUR	M POLYPROTEIN PRECURSOR	SEOUL VIRUS (STRAIN 80-39)	693-733						
PVGLM_SEOUS	M POLYPROTEIN PRECURSOR	SEOUL VIRUS (STRAIN R22)	694-728						
PVGLM_SEOUS	M POLYPROTEIN PRECURSOR	SEOUL VIRUS (STRAIN SR-11)	693-739						
PVGLN_BEFV	M POLYPROTEIN PRECURSOR	BOVINE EPHEMERAL FEVER VIRUS	377-414	513-569					
PVGLP_BEV	NONSTRUCTURAL GLYCOPROTEIN GN5 PRECURSO	BERNE VIRUS	43-81	90-124	622-656	1138-1236			
PVGLX_PRVNJ	PEPLOMER GLYCOPROTEIN PRECURSOR	PSEUDORABIES VIRUS (STRAIN NICE)	420-461						
PVGLY_TUNBN	SECRETED GLYCOPROTEIN GX	TUNIN ARENA VIRUS	301-349						
PVGLY_LASSG	GLYCOPROTEIN POLYPROTEIN PRECURSOR								

PGENE	ALLANTIS	All Viruses (no bacteriophage)								
FILENAME	PROTEIN	VIRUS	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1
PVGLY_LASSJ	GLYCOPROTEIN POLYPROTEIN PRECURSOR	LASSA VIRUS (STRAIN GA391)	311-360	388-433						
PVGLY_LYCVA	GLYCOPROTEIN POLYPROTEIN PRECURSOR	LASSA VIRUS (STRAIN JOSIAH)	310-361	389-433						
PVGLY_LYCVW	GLYCOPROTEIN POLYPROTEIN PRECURSOR	LYMPHOCYTIC CHORIOMENINGITIS VIRUS (STRAIN ARMSTRON	333-387	395-433						
PVGLY_MOPEI	GLYCOPROTEIN POLYPROTEIN PRECURSOR	LYMPHOCYTIC CHORIOMENINGITIS VIRUS (STRAIN WE)	324-378	333-367	395-432					
PVGLY_MAAV	GLYCOPROTEIN POLYPROTEIN PRECURSOR	MOPEIA VIRUS	316-359							
PVGLY_TACV	GLYCOPROTEIN POLYPROTEIN PRECURSOR	PICHINDE ARENA VIRUS	314-335							
PVGLY_TACVI	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACAIUBE VIRUS	315-363							
PVGLY_TACVJ	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACAIUBE VIRUS (STRAIN V5)	303-351	382-416						
PVGLY_TACVT	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACAIUBE VIRUS (STRAIN V6)	302-350	381-415						
PVGNB_CPAV	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACAIUBE VIRUS (STRAIN TRVL 11598)	303-351	382-416						
PVGNA1_CPAV	GENOME POLYPROTEIN 1)	COWPEA MOSAIC VIRUS	1135-1169							
PVGNA1_CPSAV	GENOME POLYPROTEIN N1	COWPEA MOSAIC VIRUS	160-201							
PVGNA1_RCMV	GENOME POLYPROTEIN N1	COWPEA SEVERE MOSAIC VIRUS (STRAIN DG)	193-226	238-292	874-915					
PVGPB_LDV	GENOME POLYPROTEIN N1	RED CLOVER MOTTLE VIRUS	837-871	912-946						
PVGP_EBOV	PROBABLE ANEMBRANE ANTIGEN GP95	EPSTEIN-BARR VIRUS (STRAIN B95-8)	94-140							
PVGP_MABVA1	STRUCTURAL GLYCOPROTEIN PRECURSOR	EBOLA VIRUS	280-321	336-368	469-503					
PVGP_MABVP	STRUCTURAL GLYCOPROTEIN PRECURSOR	MARBURG VIRUS (STRAIN HUSOKE)	562-596							
PVI03_VACCC	STRUCTURAL GLYCOPROTEIN PRECURSOR	MARBURG VIRUS (STRAIN POPP)	562-596							
PVI02_VACCV	LATE PROTEIN H2	VACCINIA VIRUS (STRAIN COPENHAGEN)	58-93							
PVI02_VARV	LATE PROTEIN H2	VACCINIA VIRUS (STRAIN WR)	58-94							
PVI03_VACCC	LATE PROTEIN H3	VARIOLA VIRUS	58-93							
PVI03_VACCV	PROTEIN H5	VACCINIA VIRUS (STRAIN COPENHAGEN)	118-185							
PVI03_VARV	PROTEIN H5	VACCINIA VIRUS (STRAIN WR)	118-183							
PVIIEL_LSV	PROTEIN H5	VARIOLA VIRUS	116-201							
PVIIR2_VACCC	PROBABLE HELICASE	LILY SYMPTOMLESS VIRUS	136-160							
PVIIR2_VACCV	HOST RANGE PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	216-279							
PVI03_VACCC	HOST RANGE PROTEIN	VACCINIA VIRUS (STRAIN WR)	216-279							
PVI03_VACCV	PROTEIN H5	VACCINIA VIRUS (STRAIN COPENHAGEN)	118-185							
PVI03_VARV	PROTEIN H5	VACCINIA VIRUS (STRAIN WR)	118-183							
PVI03_VACCV	PROTEIN I1	VACCINIA VIRUS (STRAIN COPENHAGEN)	150-193	210-244						
PVI03_VARV	PROTEIN I1	VACCINIA VIRUS (STRAIN WR)	150-193	210-244						
PVI06_VACCV	PROTEIN I5	VARIOLA VIRUS	150-193	210-244						
PVI06_VARV	PROTEIN I6	VACCINIA VIRUS (STRAIN WR)	58-93							
PVI07_VARV	PROTEIN I6	VARIOLA VIRUS	58-92							
PVI08_VACCC	PROTEIN I7	VARIOLA VIRUS	333-407							
PVI09_VACCV	PUTATIVE RNA HELICASE I8	VACCINIA VIRUS (STRAIN COPENHAGEN)	548-589							
PVI01_VARV	PUTATIVE RNA HELICASE I8	VACCINIA VIRUS (STRAIN WR)	548-589							
PVIE1_HCMVA	PUTATIVE RNA HELICASE I8	VARIOLA VIRUS	548-589							
PVIE1_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN 1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	78-112	171-205	368-402	418-450				
PVIE1_HCMVS	55 KD IMMEDIATE-EARLY PROTEIN 1	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	78-112	171-205	368-402	418-450				
PVIE2_MPVGP	IMMEDIATE-EARLY PROTEIN 1	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	244-297							
PVIEN_NPVAC	IMMEDIATE-EARLY PROTEIN IE-2	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	94-128	305-395						
PVIE_CAEVC	IMMEDIATE-EARLY REGULATORY PROTEIN IE-N	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	377-407							
PVIF_FIVPE	VIRION INFECTIVITY FACTOR	CAPRINE ARTHRITIS ENCEPHALITIS VIRUS (STRAIN CORK)	33-91							
PVIF_FIVSD	VIRION INFECTIVITY FACTOR	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE PETALUMA)	33-84							
PVIF_IIVIA2	VIRION INFECTIVITY FACTOR	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE SAN DIEGO)	33-80							
PVIF_IIVIB1	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ARV2/87) ISOLATE	1-42	62-96						
PVIF_IIVIB3	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH10.BRU.HXB2.PV	1-42	62-96						
PVIF_IIVIEL	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH5 ISOLATE)	1-42	62-96						
PVIF_IIVIIR	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE)	1-42	62-96						
PVIF_IIVIMA	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (IRCSF ISOLATE)	1-42	62-96						
PVIF_IIVIMN	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MAL ISOLATE)	2-36							
PVIF_IIVIN1	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)	1-42	62-96						
PVIF_IIVINA	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NEW YORK-5 ISOL	1-42	62-96						

PGENE	ALLNOTES	All Viruses (no bacteriophage)	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1
FULLNAME	PROTEIN	VIRUS								
PVIF_HIVIND	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE NT-1)	1-42	62-96						
PVIF_HIVIOY	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NRK ISOLATE)	1-42	62-96						
PVIF_HIVIOY	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (OY1 ISOLATE)	1-42	62-96						
PVIF_HIVIBR	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRAZ ISOLATE)	1-42	62-96						
PVIF_HIVIBR	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (STRAIN UGANDAN	1-42							
PVIF_HIVIZ2	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE 6 ISOLATE)	1-42	62-96						
PVIF_HIVIZ6	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D205.7)	1-42							
PVIF_HIVIZ2	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE MIR-2)	132-193							
PVIF_HIVIRO	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD)	103-197							
PVIF_OVIVS	VIRION INFECTIVITY FACTOR	OVINE LENTIVIRUS (STRAIN SA-ONVV)	44-114							
PVIF_SIVAI	VIRION INFECTIVITY FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (AGM155 ISOLATE)	2-58	150-202						
PVIF_SIVAG	VIRION INFECTIVITY FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (AGM3 ISOLATE)	17-58							
PVIF_SIVAI	VIRION INFECTIVITY FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM7 CLONE GM	2-56	140-187						
PVIF_SIVCZ	VIRION INFECTIVITY FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	20-58	150-195						
PVIF_SIVGB	VIRION INFECTIVITY FACTOR	CHIMPANZEE IMMUNODEFICIENCY VIRUS	1-42							
PVMP_HSV11	VIRION INFECTIVITY FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE G01)	1-19							
PVMP_HSVEB	PROBABLE INTEGRAL MEMBRANE PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	13-134							
PVMP_HSVSA	PROBABLE INTEGRAL MEMBRANE PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN ABAP)	148-182	335-369						
PVMP_VZVD	INTEGRAL MEMBRANE PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	80-139							
PVINT_SSV1	PROBABLE INTEGRAL MEMBRANE PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	107-151	135-189	267-301					
PVX01_VACCC	PROBABLE INTEGRASE	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	85-130	138-172						
PVX01_VACCV	PROTEIN J1	VACCINIA VIRUS (STRAIN COPENHAGEN)	22-56							
PVX01_VARV	PROTEIN J1	VACCINIA VIRUS (STRAIN WR)	22-56							
PVX03_VACCC	PROTEIN J1	VARIOLA VIRUS	22-56							
PVX03_VACCV	PROTEIN K3	VACCINIA VIRUS (STRAIN COPENHAGEN)	38-83							
PVX07_VACCV	PROTEIN K3	VACCINIA VIRUS (STRAIN WR)	38-83							
PVL02_VACCC	PROTEIN K7	VACCINIA VIRUS (STRAIN WR) AND (STRAIN COPENHAGEN)	115-149							
PVL02_VACCV	PROTEIN L2	VACCINIA VIRUS (STRAIN COPENHAGEN)	67-81							
PVL02_VARV	PROTEIN L2	VACCINIA VIRUS (STRAIN WR)	67-81							
PVL1_CRPVK	PROTEIN L2	VARIOLA VIRUS	67-81							
PVL1_FPVL	PROBABLE L1 PROTEIN	COTTONTAIL RABBIT (SHOPE) PAPILLOMAVIRUS (STRAIN KANS	267-293	331-383						
PVL1_HPV05	PROBABLE L1 PROTEIN	AVIAN PAPILLOMAVIRUS FPV-L	38-90							
PVL1_HPV06	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 5	353-393							
PVL1_HPV1A	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6	334-392							
PVL1_HPV47	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 1A	343-379							
PVL1_PAPVD	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 47	353-391							
PVL1_REOVD	PROBABLE L1 PROTEIN	DEER PAPILLOMAVIRUS	23-57							
PVL2_HPV05	MAJOR CORE PROTEIN LAMBDA 1	REOVIRUS (TYPE 3 / STRAIN DEARING)	96-142	437-491						
PVL2_HPV06	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE	341-375							
PVL2_HPV16	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6	334-392							
PVL2_HPV1A	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	293-333							
PVL2_HPV31	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 1A	343-379							
PVL2_HPV33	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31	288-326							
PVL2_HPV45	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	293-333							
PVL2_HPV56	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 45	341-375							
PVL2_HPV58	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 56	293-327							
PVL2_REOVD	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	341-375							
PVL3_REOVI	MINOR CORE PROTEIN LAMBDA 3	REOVIRUS (TYPE 3 / STRAIN DEARING)	107-148	1112-1178						
PVL3_REOVL	MINOR CORE PROTEIN LAMBDA 3	REOVIRUS (TYPE 2 / STRAIN D/DONES)	1113-1178							
PVL98_BVI	MINOR CORE PROTEIN LAMBDA 3	REOVIRUS (TYPE 1 / STRAIN LANG)	107-148	1331-365	1112-1178					
PVM01_VACCC	L14 PROTEIN	TIPULA IRIDESCENT VIRUS	146-180	198-236						

REGIONE	ALLINOTIS	All Viruses (no bacteriophages)						
EIL_PAUR	PROTEIN	VIRUS	AREA1	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6
PVIR1_REOVL	PROTEIN NS1	VACCINIA VIRUS (STRAIN COPENHAGEN)	5-36						
PVIR1_REOVU	MINOR VIRION STRUCTURAL PROTEIN MU-2	REOVIRUS (TYPE 1 / STRAIN LANG)	337-331						
PVIR2_REOVD	MAJOR VIRION STRUCTURAL PROTEIN MU-1/MU-1C	REOVIRUS (TYPE 3 / STRAIN DEARING)	418-436	619-663					
PVIR2_REOVI	MAJOR VIRION STRUCTURAL PROTEIN MU-1/MU-1C	REOVIRUS (TYPE 3 / STRAIN DEARING)	418-436	619-663					
PVIR2_REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-1/MU-1C	REOVIRUS (TYPE 3 / STRAIN DEARING)	418-436	618-662					
PVIR2_REOVD	MAJOR VIRION STRUCTURAL PROTEIN MU-1/MU-1C	REOVIRUS (TYPE 3 / STRAIN DJHONES)	418-436	618-662					
PVIR2_REOVA	MAJOR VIRION STRUCTURAL PROTEIN MU-1/MU-1C	REOVIRUS (TYPE 3 / STRAIN LANG)	418-436	618-662					
PVIR2_BRSVA	MAJOR NONSTRUCTURAL PROTEIN NS1/NS2	REOVIRUS (TYPE 3 / STRAIN DEARING)	115-190	337-331	522-558	618-690			
PVIR2_HRSVA	MATRIX GLYCOPROTEIN M2	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A51/908)	42-90						
PVIR2_TRTV	MATRIX GLYCOPROTEIN M2	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	42-90						
PVIR2_CDVO	MATRIX GLYCOPROTEIN M2	TURKEY RHINOTRACHEITIS VIRUS	36-70						
PVIR1_INCJ	MATRIX PROTEIN	CANINE DISTEMPER VIRUS (STRAIN ONDERSTEPOORT)	193-234						
PVIR1_NDVA	MATRIX (M) PROTEIN	INFLUENZA C VIRUS (STRAIN GA/1/50)	175-214	151-208					
PVIR1_NDVB	MATRIX PROTEIN	NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA/VICTORIA/32)	116-158						
PVIR1_PIJB	MATRIX PROTEIN	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C/48)	126-158						
PVIR1_PIJH	MATRIX PROTEIN	BOVINE PARAINFLUENZA 3 VIRUS	99-133						
PVIR1_RABVA	MATRIX PROTEIN	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	99-133	204-232					
PVIR1_RABVC	MATRIX PROTEIN	RABIES VIRUS (STRAIN AVO1)	99-133	204-232					
PVIR1_RABVE	MATRIX PROTEIN	RABIES VIRUS (STRAIN CVS-11)	69-103						
PVIR1_RABVN	MATRIX PROTEIN	RABIES VIRUS (STRAIN ERA)	69-103						
PVIR1_RABVP	MATRIX PROTEIN	RABIES VIRUS (STRAIN NISHIGAHARA RC11)	69-103						
PVIR1_RABV3	MATRIX PROTEIN	RABIES VIRUS (STRAIN PV)	69-103						
PVIR1_SYNV	MATRIX PROTEIN	RABIES VIRUS (STRAIN SAD B19)	69-103						
PVIR1_VSVIG	MATRIX PROTEIN	SONCHUS YELLOW NET VIRUS	216-260						
PVIRE1_CVBM	MATRIX PROTEIN	VESICULAR STOMATITIS VIRUS (SEROTYPE INDIANA / STRAIN C)	188-233						
PVIRE1_CVPFS	E1 GLYCOPROTEIN	BOVINE CORONAVIRUS (STRAIN MEBUS)	173-209						
PVIRE1_CVPFU	E1 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (S	98-146						
PVIRE1_CVTRN	E1 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (S	212-257	312-357					
PVIRE1_CVTKE	E1 GLYCOPROTEIN PRECURSOR	PORCINE RESPIRATORY CORONAVIRUS (STRAIN RM4)	212-257						
PVIRE1_IPV	E1 GLYCOPROTEIN	TURKEY ENTERIC CORONAVIRUS	212-257						
PVIRE1_IBV4	E1 GLYCOPROTEIN PRECURSOR	FELINE INFECTIOUS PERITONITIS VIRUS (STRAIN 79-1146)	21-62	173-209					
PVIRE1_IBV82	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN 6/82)	212-257						
PVIRE1_IBVK	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	21-55	177-218					
PVIRE1_IBV	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE M	21-55	177-218					
PVIRM_EBV	PROBABLE MEMBRANE PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	177-218						
PVIP_CAMVC	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	16-54						
PVIP_CAMVD	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	187-234	276-324					
PVIP_CAMVE	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D11)	187-234	276-324					
PVIP_CAMVW	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN BOC)	187-234	276-324					
PVIP_CAMVS	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY1153)	187-234	276-324					
PVIP_CAMVW	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN STRASBOURG)	187-234	276-324					
PVIP_CERV	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN W260)	187-234	276-324					
PVIP_FMVD	MOVEMENT PROTEIN	CARNATION ETCHED RING VIRUS	187-234						
PVIP_SCMV	MOVEMENT PROTEIN	FIGWORT MOSAIC VIRUS (STRAIN DX5)	212-246						
PVIRSA_IPBDB	MAJOR SURFACE ANTIGEN PRECURSOR	SOYBEAN CHLOROTIC MOTTLE VIRUS	217-251						
PVIRSA_IPBDC	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS (BROWN SHANGHAI DUCK ISOLATE S	76-110						
PVIRSA_IPBDU	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS (STRAIN CHINA)	271-313	320-361					
PVIRSA_IPBDW	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS	271-313	321-360					
PVIRSA_IPBGS	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS (WHITE SHANGHAI DUCK ISOLATE S)	214-255	289-323					
PVIRSA_IPBHE	MAJOR SURFACE ANTIGEN PRECURSOR	GROUND SQUIRREL HEPATITIS VIRUS	232-313	324-361					
PVIRSA_WTV1	MAJOR SURFACE ANTIGEN PRECURSOR	HERON HEPATITIS B VIRUS	216-244						
PVIRSA_WHV39	MAJOR SURFACE ANTIGEN PRECURSOR	WOODCHUCK HEPATITIS VIRUS 1	194-238						
PVIRSA_WTV7	MAJOR SURFACE ANTIGEN PRECURSOR	WOODCHUCK HEPATITIS VIRUS 39	204-242						
			213-247						

PEGENE	ALLNOTES	All Viruses (no bacteriophage)							
FILENAME	PROTEIN	VIRUS	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1
PVSBA_WHV3I	MAJOR SURFACE ANTIGEN PRECURSOR	WOODCHUCK HEPATITIS VIRUS 3	111-347						
PVSBA_WHV3I	PROBABLE MAJOR SURFACE ANTIGEN PRECURSOR	WOODCHUCK HEPATITIS VIRUS 8 (INFECTIOUS CLONE)	111-347						
PVNI1_DHVNI	MATRIX PROTEIN 1	DHORI VIRUS (STRAIN INDIAN/1313/61)	101-255						
PVNI1_I68AN	MATRIX (M1) PROTEIN	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	92-226	174-232					
PVNI1_I68AN	MATRIX (M1) PROTEIN	INFLUENZA A VIRUS (STRAIN A/BANGKOK/1/79)	92-226	174-232					
PVNI1_I4CAO	MATRIX (M1) PROTEIN	INFLUENZA A VIRUS (STRAIN A/CAMELID/ULAANBAATAR/1/80)	92-226	174-232					
PVNI1_I4HW	MATRIX (M1) PROTEIN	INFLUENZA A VIRUS (STRAIN A/FORT WARREN/1/50), AND (STR	92-226	174-232					
PVNI1_I4HW	MATRIX (M1) PROTEIN	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK	92-226	174-232					
PVNI1_I4HW	MATRIX (M1) PROTEIN	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/WEYBRID	92-226	174-232					
PVNI1_I4H3	MATRIX (M1) PROTEIN	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/57)	92-226	174-232					
PVNI1_I5NI1	MATRIX (M1) PROTEIN	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/57(H2N2))	92-226	174-232					
PVNI1_I4PUC	MATRIX (M1) PROTEIN	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	92-226	174-232					
PVNI1_I4CDO	MATRIX (M1) PROTEIN	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	92-226	174-232					
PVNI1_I4WI1	MATRIX (M1) PROTEIN	INFLUENZA A VIRUS (STRAIN A/UDORN/307/72)	92-226	174-232					
PVNI1_I4AI1	MATRIX (M1) PROTEIN	INFLUENZA A VIRUS (STRAIN A/WILSON-SMITH/33)	92-226	174-232					
PVNI1_I3DAC	MATRIX (M1) PROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/15/30	92-226	174-232					
PVNI1_I4BAD	MATRIX (M1) PROTEIN	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (COLD-ADAPTE	135-299						
PVNI1_I4BLE	MATRIX (M1) PROTEIN	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (WILD-TYPE))	135-299						
PVNI1_I5BSI	MATRIX (M1) PROTEIN	INFLUENZA B VIRUS (STRAIN B/LEE/40)	135-299						
PVNI1_I4BAC	MATRIX (M1) PROTEIN	INFLUENZA B VIRUS (STRAIN B/SINGAPORE/222/79)	135-299						
PVNI1_I4BAD	PROBABLE MATRIX (M1) PROTEIN	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (COLD-ADAPTE	132-184						
PVNI1_I4BLE	PROBABLE MATRIX (M1) PROTEIN	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (WILD-TYPE))	132-184						
PVNI1_I5BSI	PROBABLE MATRIX (M1) PROTEIN	INFLUENZA B VIRUS (STRAIN B/LEE/40)	132-184						
PVNI1_MYXVL	PROBABLE MATRIX (M1) PROTEIN	INFLUENZA B VIRUS (STRAIN B/SINGAPORE/222/79)	132-184						
PVN01_VACCC	NI1I PROTEIN	MYXOMA VIRUS (STRAIN LAUSANNE)	46-80	145-197					
PVN01_VACCV	PROTEIN N1	VACCINIA VIRUS (STRAIN COPENHAGEN)	64-112						
PVN36_ROTBS	PROTEIN N1	VACCINIA VIRUS (STRAIN WR)	64-112						
PVN14_ROTPC	NONSTRUCTURAL PROTEIN NS14	BOVINE ROTAVIRUS (GROUP C / STRAIN SHINTOKU)	64-169						
PVNCA_AAV3	NONSTRUCTURAL PROTEIN NS14	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	64-117	121-169					
PVNCA_BSV	DNA REPLICATION PROTEIN	ADENO-ASSOCIATED VIRUS 3	91-133	217-251					
PVNCN_PAVBO	MAJOR NONCAPSID PROTEIN	RICE STRIPE VIRUS	139-163						
PVNCS_ADVG	PROBABLE NONCAPSID PROTEIN NP1	BOVINE PARVOVIRUS	221-255						
PVNCS_AEDEV	NONCAPSID PROTEIN NS-1	ALEUTIAN MINK DISEASE PARVOVIRUS (STRAIN G)	19-60	270-304					
PVNCS_IPV19	NONCAPSID PROTEIN NS-1	AEDES DENSONUCLEOSIS VIRUS (STRAIN GKV 001 002)	216-319	321-371	385-440	715-760	780-849		
PVNCS_MEVA	NONCAPSID PROTEIN NS-1	FELINE PANLEUKOPENIA VIRUS (STRAIN 193)	51-98						
PVNCS_MDHMV	NONCAPSID PROTEIN NS-1	MINK ENTERITIS VIRUS (STRAIN ADASHIII)	51-91						
PVNCS_MDMV	NONCAPSID PROTEIN NS-1	MURINE MINUTE VIRUS (STRAIN NIVAII)	51-91	261-297					
PVNCS_PAVBD	NONCAPSID PROTEIN NS-1	MURINE MINUTE VIRUS	51-91	259-297					
PVNCS_PAVCN	PROBABLE NONCAPSID PROTEIN NS1	BOVINE PARVOVIRUS	101-232						
PVNCS_PAVIB	NONCAPSID PROTEIN NS-1	CANINE PARVOVIRUS (STRAIN N)	51-98						
PVNCS_PAVHF	NONCAPSID PROTEIN NS-1	HUMAN PARVOVIRUS B19	216-270						
PVNCS_PAVPN	NONCAPSID PROTEIN NS-1	HAMSTER PARVOVIRUS 1H	51-76	259-297					
PVNS1_BTV10	NONCAPSID PROTEIN NS-1	PORCINE PARVOVIRUS (STRAIN NADL-2)	24-77	169-210	106-146				
PVNS1_BTVI1	NONSTRUCTURAL PROTEIN NS1	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	101-141						
PVNS1_BTVIA	NONSTRUCTURAL PROTEIN NS1	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	101-141						
PVNS1_BTVI8	NONSTRUCTURAL PROTEIN NS1	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE AUSTRALIA)	107-141						
PVNS1_BTV20	NONSTRUCTURAL PROTEIN NS1	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE SOUTH AFRICA)	101-141						
PVNS1_EHDV3	NONSTRUCTURAL PROTEIN NS1	BLUETONGUE VIRUS (SEROTYPE 20 / ISOLATE AUSTRALIA)	107-141						
PVNS1_IAANN	NONSTRUCTURAL PROTEIN NS1	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 2 / STRA	401-436						
PVNS1_JACAO	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	49-83						
PVNS1_I4CKG	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/CAMELID/MONGOLIA/83)	131-71						

PEPTIDE	ALLANTOITIS	All Viruses (no bacteriophage)							
FILENAME	PROTEIN	VIRUS	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1
PVNS1_IACKI	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/CHICKEN/GERMANY/N/49)	49-81						
PVNS1_IADA2	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/CHICKEN/JAPAN/24)	49-80						
PVNS1_IADEI	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERTA/60/76)	49-81						
PVNS1_IADU3	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/DUCK/ENGLAND/1/56)	46-80						
PVNS1_IAFOW	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/DUCK/UKRAINE/1/63)	46-80						
PVNS1_IAFPR	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/FORT MONMOUTH/1/47)	49-81						
PVNS1_IALE1	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/FORT WARRENTON/1/57), AND (STRA	49-81						
PVNS1_IALEN	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK	49-81						
PVNS1_IAMA6	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/57)	49-81						
PVNS1_IAMAN	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/MALLARD/ALBERTA/88/76	49-81						
PVNS1_IAMAO	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/MALLARD/NEW YORK/6750/78)	49-81						
PVNS1_IAMYN	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/MALLARD/NEW YORK/6751/78	49-81						
PVNS1_IAPD	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/MYNA/MIYAZAKI/3/77)	49-81						
PVNS1_IAPI1	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/119/79	49-81						
PVNS1_IAPI2	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/123/79)	49-81						
PVNS1_IAPI3	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/128/79	49-81						
PVNS1_IAPUE	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/135/79)	49-81						
PVNS1_IATK8	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	49-83						
PVNS1_IATKC	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TURKEY/BETHLEHEM-GILLITT/4	49-83						
PVNS1_IATKR	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TURKEY/CANADA/63)	49-81						
PVNS1_IATR5	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TURKEY/ONTARIO/7211)	49-83						
PVNS1_IATR7	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TERN/SOUTH AFRICA/61	46-80						
PVNS1_IAZ11	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TERN/TURKMENIA/1972)	49-83						
PVNS1_IBBAC	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/15/30)	49-83						
PVNS1_IBBGA	NONSTRUCTURAL PROTEIN NS1	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (COLD-ADAPTE	141-177						
PVNS1_IBBIK	NONSTRUCTURAL PROTEIN NS1	INFLUENZA B VIRUS (STRAIN B/GA/15)	141-177						
PVNS1_IBBIT	NONSTRUCTURAL PROTEIN NS1	INFLUENZA B VIRUS (STRAIN B/HONG KONG/8/73), AND (STRAIN	143-177						
PVNS1_IBBID	NONSTRUCTURAL PROTEIN NS1	INFLUENZA B VIRUS (STRAIN B/ITA/84)	143-177						
PVNS1_IBBLE	NONSTRUCTURAL PROTEIN NS1	INFLUENZA B VIRUS (STRAIN B/LEE/40)	143-177						
PVNS1_IBBPA	NONSTRUCTURAL PROTEIN NS1	INFLUENZA B VIRUS (STRAIN B/LEE/40)	143-177						
PVNS1_IBBRU	NONSTRUCTURAL PROTEIN NS1	INFLUENZA B VIRUS (STRAIN B/MALAYSIA/5/91)	143-177						
PVNS1_IBBSI	NONSTRUCTURAL PROTEIN NS1	INFLUENZA B VIRUS (STRAIN B/PA/79)	143-177	277-337					
PVNS1_IBBSJ	NONSTRUCTURAL PROTEIN NS1	INFLUENZA B VIRUS (STRAIN B/SHU/69)	139-173						
PVNS1_IBBVI	NONSTRUCTURAL PROTEIN NS1	INFLUENZA B VIRUS (STRAIN B/SINGAPORE/222/79)	143-177						
PVNS1_IBBYA	NONSTRUCTURAL PROTEIN NS1	INFLUENZA B VIRUS (STRAIN B/SINGAPORE/64)	143-177						
PVNS1_AHSV9	NONSTRUCTURAL PROTEIN NS1	INFLUENZA B VIRUS (STRAIN B/VICTORIA/87)	143-177						
PVNS2_BTV17	NONSTRUCTURAL PROTEIN NS2	INFLUENZA B VIRUS (STRAIN B/YAMAGATA/73)	143-177						
PVNS2_BTV1X	NONSTRUCTURAL PROTEIN NS2	AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 9)	61-101						
PVNS2_CVMH	NONSTRUCTURAL PROTEIN NS2	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	203-237						
PVNS2_EIDV2	NONSTRUCTURAL PROTEIN NS2	BLUETONGUE VIRUS (SEROTYPE 10)	203-237						
PVNS2_IAALA	NONSTRUCTURAL PROTEIN NS2	MURINE CORONAVIRUS MHV (STRAIN JHM)	71-103						
PVNS2_IAANA	NONSTRUCTURAL PROTEIN NS2	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 2 / STRA	206-232	276-311					
PVNS2_IAANN	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN A/ALASKA/49/77), AND (STRAIN A/U	14-91						
PVNS2_IACHI	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN A/ANAS ACUTA/PRUNDOE/49/76)	14-91						
PVNS2_IACKO	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60), AND (STRAIN	14-91						
PVNS2_IACR1	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN A/CHILE/1/83)	14-91						
PVNS2_IADA2	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN A/CHICKEN/GERMANY/N/49)	14-79						
PVNS2_IADEI	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN A/CHICKEN/JAPAN/24)	11-90						
PVNS2_IADU3	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERTA/60/76)	14-79						
PVNS2_IAFOW	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN A/DUCK/ENGLAND/1/56)	11-90						
		INFLUENZA A VIRUS (STRAIN A/DUCK/UKRAINE/1/63)	11-90						

PCGENE	ALLANTIS	All Viruses (no bacteriophage)	AREA1	AREA1	AREA1	AREA2	AREA1	AREA1	AREA1
FULLNAME	PROTEIN	VIRUS							
PVNS1_IAIOW	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PORT NONTOUT/1/47)	14-93						
PVNS1_IAIPR	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PORT WARREN/1/50)	14-93						
PVNS1_IALEI	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK	14-93						
PVNS1_IALEN	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/1/57)	14-93						
PVNS1_IAMA6	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ALLARD/ALBERTA/NS/76)	14-79						
PVNS1_IAMAN	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ALLARD/ALBERTA/217/79)	14-79						
PVNS1_IANAO	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ALLARD/NEW YORK/6/1918)	14-93						
PVNS1_IANYN	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ALLARD/NEW YORK/683/78)	14-93						
PVNS1_IAPR8	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ATNAJD/JAMEDA-TIIA/1/8)	11-90						
PVNS1_IAPII	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/119/79)	14-93						
PVNS1_IAPII	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/113/1/79)	14-79						
PVNS1_IAPUS	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/119/78)	14-93						
PVNS1_IATK8	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	14-93						
PVNS2_IATKR	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN A/TURKEY/BETHLEHEM-GILL/1/4	14-79						
PVNS2_IATRS	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN A/TURKEY/OREGON/71)	14-79						
PVNS3_IAUSS	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN A/TERN/SOUTH AFRICA/61)	11-53						
PVNS3_IWBLE	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN A/USSR/90/77)	14-93						
PVNS3_IWBYA	NONSTRUCTURAL PROTEIN NS2	INFLUENZA B VIRUS (STRAIN B/LEE/40)	2-43	59-119					
PVNS3_IWCII	NONSTRUCTURAL PROTEIN NS2	INFLUENZA B VIRUS (STRAIN B/YAMAGATA/1/73)	2-43	59-119					
PVNS3_PVM	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/JJ/50)	57-98						
PVNS3_AJ150	NONSTRUCTURAL PROTEIN 2	PNEUMONIA VIRUS OF MICE	78-184						
PVNS3_AJH59	NONSTRUCTURAL PROTEIN NS1	AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 1)	44-78	166-215					
PVNS3_BRD	NONSTRUCTURAL PROTEIN NS1	AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 9)	37-78	88-122	166-215				
PVNS3_CYPFS	NONSTRUCTURAL PROTEIN NS1	BROADMAYEN VIRUS	28-98	102-147					
PVNS4_CVH22	NONSTRUCTURAL PROTEIN 3-1	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (S	13-51						
PVNS4_RSV	NONSTRUCTURAL PROTEIN 4	HUMAN CORONAVIRUS (STRAIN 229E)	11-53						
PVNS7_CVCAE	NONSTRUCTURAL PROTEIN NS4	LUCE STRIPE VIRUS	2-40						
PVNS7_CVFEI	NONSTRUCTURAL PROTEIN 7	CANINE ENTERIC CORONAVIRUS (STRAIN K378)	11-47						
PVNS7_FIPV	NONSTRUCTURAL PROTEIN 7	FELINE ENTERIC CORONAVIRUS (STRAIN 79-1683)	1-42						
PVNSC_CDVO	NONSTRUCTURAL PROTEIN 1	FELINE INFECTIOUS PERITONITIS VIRUS (STRAIN 79-1146)	1-42						
PVNSC_MEASE	NONSTRUCTURAL PROTEIN C	CANINE DISTEMPER VIRUS (STRAIN ONDERSTEPOORT)	30-84	95-152					
PVNSC_MEASI	NONSTRUCTURAL PROTEIN C	MEASLES VIRUS (STRAIN EDMONSTON)	43-84						
PVNSC_MEASY	NONSTRUCTURAL PROTEIN C	MEASLES VIRUS (STRAIN IP-3 CA)	43-84						
PVNSC_PIIIB	NONSTRUCTURAL PROTEIN C	MEASLES VIRUS (STRAIN YAMAGATA-1)	43-84						
PVNSC_PIIHC	NONSTRUCTURAL PROTEIN C	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C15)	113-167						
PVNSC_PIIHD	NONSTRUCTURAL PROTEIN C	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C39)	113-167						
PVNSC_PIIHE	NONSTRUCTURAL PROTEIN C	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C1-9/1)	113-167						
PVNSC_PIIHH	NONSTRUCTURAL PROTEIN C	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C1-1401)	40-71	113-167					
PVNSC_SENDH	NONSTRUCTURAL PROTEIN C	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	38-113	161-199					
PVNSC_SENDM	NONSTRUCTURAL PROTEIN C	SENDAI VIRUS (STRAIN 6/54)	133-167						
PVNSC_SENDZ	NONSTRUCTURAL PROTEIN C	SENDAI VIRUS (STRAIN HARRIS)	133-167						
PVNSM_INSV	NONSTRUCTURAL PROTEIN C	SENDAI VIRUS (STRAIN Z)	133-167						
PVNST_BUNGE	NONSTRUCTURAL PROTEIN NS-S1	BAPATIENS NECROTIC SPOT VIRUS (INSV)	44-102	252-296					
PVNST_BUNLJ	NONSTRUCTURAL PROTEIN NS-S	BUNYAVIRUS GERMISTON	34-75						
PVNST_BUNLC	NONSTRUCTURAL PROTEIN NS-S	BUNYAVIRUS LA CROSSE (ISOLATE LT4)	5-39						
PVNST_MAGV	NONSTRUCTURAL PROTEIN NS-S	BUNYAVIRUS LA CROSSE	5-39						
PVNST_TOSV	NONSTRUCTURAL PROTEIN NS-S	MAGUAAJ VIRUS	33-69						
PVNST_UUK	NONSTRUCTURAL PROTEIN NS-S	TOSCANA VIRUS (TOS)	164-183						
PVNUA_PRVKA	NONSTRUCTURAL PROTEIN NS-S	UUKUNIEMI VIRUS (UUK)	139-173						
PVNUC_DHYII	PROBABLE NUCLEAR ANTIGEN	PSEUDORABIES VIRUS (STRAIN KAPLAN) (PRV)	1134-1135						
PVNUC_EBOV	NUCLEOPROTEIN	DHORI VIRUS (STRAIN INDIAN/1313/61) (DHO)	209-243						

PEGENE	ALIGNMENTS	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
PEGENE_IAANA	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
PVNUC_IAANA	NUCLEOPROTEIN	EBOLA VIRUS	191-235	227-261	329-349				
PVNUC_IAAPA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/AMAS ACUTA/PRT/NOUE/495/76)	1-42	96-134	337-408				
PVNUC_IABBA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	1-42	337-408					
PVNUC_IABUD	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/BRAZIL/1/78)	1-42	337-408					
PVNUC_IACAL	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/BUDGERIGAR/HOKKAIDO/1/77)	1-42	96-134	337-408				
PVNUC_IACKG	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/CALIFORNIA/10/78)	1-42	337-409					
PVNUC_IACKP	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/CHICKEN/GERMANY/N/49)	1-42	96-134	337-408				
PVNUC_IADAU	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/CHICKEN/PENNSYLVANIA/1/83)	1-42	96-134	337-408				
PVNUC_IADBE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/AUSTRALIA/74/80)	1-42	96-134	337-408				
PVNUC_IADC2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/BEIJING/1/78)	1-42	96-134	337-408				
PVNUC_IADE1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/CZECHOSLOVAKIA/56)	1-42	96-134	360-408				
PVNUC_IADE2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/ENGLAND/1/56)	1-42	96-134	337-408				
PVNUC_IADHK	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/ENGLAND/1/62)	1-42	96-134	337-408				
PVNUC_IADH3	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/HONG KONG/1/77)	1-42	96-134	337-408				
PVNUC_IADHA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/MEMPHIS/546/74)	1-42	96-134	337-408				
PVNUC_IADN2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/ONTARIO/6118/68)	1-42	96-134	337-408				
PVNUC_IADU3	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/NEW ZEALAND/1/76)	1-42	96-134	337-408				
PVNUC_IAEN3	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/URRAIN/2/69)	96-134	337-408					
PVNUC_IAFOH	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/ENGLAND/1933)	1-42	337-409					
PVNUC_IAFOW	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/FORT MONMOUTH/1/47)	1-42	337-409					
PVNUC_IAFPD	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/FORT WARREN/1/59)	337-401						
PVNUC_IAFPR	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/DOBSON/)	1-42	96-134	337-408				
PVNUC_IAGRE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK)	1-42	96-134	360-408				
PVNUC_IAGUI	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GREY TEAL/AUSTRALIA/2/79)	1-42	133-134	337-408				
PVNUC_IAGU3	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GUILDFORD/1/71)	1-42	337-408					
PVNUC_IAGU4	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GUILDFORD/194/71)	96-134	337-409					
PVNUC_IAGUA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GUILDFORD/1324/73)	1-42	96-134	337-409				
PVNUC_IAGUG	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GUILDFORD/1819/79)	1-42	96-134	337-409				
PVNUC_IAGUH	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GUILFORD/2179/81)	1-42	96-134	337-409				
PVNUC_IAGUN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GUILLAMASSACHUSETTS/26/80)	1-42	96-134	337-409				
PVNUC_IAHC	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GUILLAMINNESOTA/45/80)	1-42	96-134	337-409				
PVNUC_IAHI	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/HUCKSON/409)	1-42	337-409					
PVNUC_IAHLO	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/ILLINOIS/)	1-42	96-134	337-408				
PVNUC_IAHM	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/LONDON/1416/73)	1-42	96-134	337-408				
PVNUC_IAHO1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/MIAMI/1/63)	1-42	96-134					
PVNUC_IAHO3	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/HONG KONG/1/68)	1-42	337-409					
PVNUC_IAHPR	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/HONG KONG/5/83)	1-42	337-409					
PVNUC_IANTE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/PRAGUE/1/56)	96-134	337-408					
PVNUC_IAXIE	NUCLEOPROTEIN	INFLUENZA A VIRUS	1-42	96-134	337-408				
PVNUC_IALEN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/KIEV/59/79)	1-42	337-409					
PVNUC_IAMAA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/1)	1-42	337-409					
PVNUC_IAMAN	NUCLEOPROTEIN	INFLUENZA A VIRUS	1-42	96-134	337-401				
PVNUC_IAMN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/MALLARD/NEW YORK/6750/78)	1-42	96-134	337-408				
PVNUC_IANEJ	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/NJ/K/SWEDEN/64)	1-42	96-134	337-408				
PVNUC_IANT6	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/NEW JERSEY/8/76)	1-42	96-134	337-408				
PVNUC_IAOIU	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/NT/60/68)	1-42	337-409					
PVNUC_IAPAR	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/OHIO/421)	1-42	337-409					
PVNUC_IAPUE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/PR/8/OTA/ULSTER/73)	1-42	96-134	337-408				
PVNUC_IARUD	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	1-42	337-409					
PVNUC_IASEO	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/RUDDY TURNSTONE/NEW JERSEY)	1-42	96-134	337-408				
PVNUC_IASH2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SEALMASSACHUSETTS/1/80)	1-42	96-134	337-409				
PVNUC_IASIN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SHEARWATER/AUSTRALIA/72)	1-42	337-408					

FCGENE	ALIAS(ES)	All Viruses (no bacteriophage)							
NAME	PROTEIN	VIRUS	AREA 1	AREA 1	AREA 2	AREA 1	AREA 1	AREA 1	AREA 1
PVNUC_IA1E1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SINGAPORE/1/57)	1-42	337-409	337-409				
PVNUC_IA1E1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/TEAL/ICELAND/2/80)	1-42	96-154	337-404				
PVNUC_IA1EN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/TURKEY/MINNESOTA/1/65(H1))	1-42	96-154	337-408				
PVNUC_IA1ERD	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/TURKEY/ONT.6118/77(H2N2))	1-42	96-154	337-408				
PVNUC_IA1RS	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/TURKEY/ONT.6118/77(H2N2))	1-42	96-154	337-408				
PVNUC_IA1RT	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/TERN/SOUTH AFRICA/61)	1-42	96-154	340-408				
PVNUC_IA1X7	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/TERN/TURKMENIA/76)	1-42	96-154	337-403				
PVNUC_IAUDO	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/TEXAS/1/77)	1-42	337-409					
PVNUC_IAUSS	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/UDORN/307/72)	1-42	337-409					
PVNUC_IAV16	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/USSR/90/77)	1-42	337-408					
PVNUC_IAWIN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/VICTORIA/3/68)	337-408						
PVNUC_IAWIP	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WHALE/BAJA/NEZ/84)	1-42	96-154	337-409				
PVNUC_IAWIL	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WHALE/PACIFIC OCEAN/1/96)	1-42	96-154	337-408				
PVNUC_IAWIS	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WILSON-SMITH/33)	1-42	337-409					
PVNUC_IA239	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WISCONSIN/239/68)	1-42	96-154	337-408				
PVNUC_IA241	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WIN/89/72)	1-42	96-154	337-408				
PVNUC_IA2CA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WIN/41/69)	1-42	96-154	337-408				
PVNUC_IA2DA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WINE/CAMBRIDGE/1/35)	1-42	337-409					
PVNUC_IA2GE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WINE/DANDONG/54)	1-42	337-409					
PVNUC_IA2II	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WINE/GERMANY/2/81)	1-42	96-154	337-408				
PVNUC_IA2II	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WINE/HONG KONG/8/76)	1-42	337-409					
PVNUC_IA2IJ	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WINE/HONG KONG/1352/83)	1-42	96-154	337-408				
PVNUC_IA2IJ	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WINE/HONG KONG/17/82)	1-42	96-154	337-408				
PVNUC_IA2IJ	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WINE/ITALY/20/79)	1-42	96-154	337-408				
PVNUC_IA2IN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WINE/ITALY/1161/81)	1-42	96-154	337-408				
PVNUC_IA2IA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WINE/ITALY/1909/89)	1-42	96-154	337-408				
PVNUC_IA2MA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WINE/JANESBURG/43)	1-42	96-154	337-408				
PVNUC_IA2NE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WINE/JAPAN/74)	1-42	96-154	337-408				
PVNUC_IA2OH	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WINE/NETHERLANDS/12/85)	1-42	96-154	337-408				
PVNUC_IA2UN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WINE/OHIO/1/33)	1-42	96-154	337-408				
PVNUC_IA2TE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WINE/ONTARIO/2/81)	1-42	96-154	337-408				
PVNUC_IA2W1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WINE/TENNESSEE/3/47)	1-42	96-154	337-408				
PVNUC_IA2W2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WINE/WISCONSIN/1/51)	1-42	96-154	337-408				
PVNUC_INBAA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WINE/WISCONSIN/1/61)	1-42	96-154	337-408				
PVNUC_INBAC	NUCLEOPROTEIN	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66)	35-143	400-514					
PVNUC_INBAD	NUCLEOPROTEIN	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (COLD-ADAPTE	35-143	400-514					
PVNUC_INBLE	NUCLEOPROTEIN	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (WILD-TYPE))	35-143	400-514					
PVNUC_INBSI	NUCLEOPROTEIN	INFLUENZA B VIRUS (STRAIN B/LEE/40)	35-144	400-514					
PVNUC_INCCA	NUCLEOPROTEIN	INFLUENZA B VIRUS (STRAIN B/SINGAPORE/222/79)	35-143	400-514					
PVNUC_NIABVM	NUCLEOPROTEIN	INFLUENZA C VIRUS (STRAIN C/CALIFORNIA/78)	93-203	406-447					
PVNUC_NABVP	NUCLEOPROTEIN	MARBURG VIRUS (STRAIN MUSOKE)	173-307	332-407					
PVOR1_VACCC	NUCLEOPROTEIN	MARBURG VIRUS (STRAIN POPP)	173-307	332-407					
PVOR1_VARV	PROTEIN O1	VACCINIA VIRUS (STRAIN COPENHAGEN)	102-143	241-279	341-382	581-615			
PVOR1_P2AV	PROTEIN O1	VARIOLA VIRUS	102-145	241-279	341-382	581-615			
PVOR1_MMV	133 KD PROTEIN	FOOT-AND-MOUTH DISEASE VIRUS	303-337						
PVOR1_PMV	188 KD PROTEIN	NARCISSUS MOSAIC VIRUS (NMV)	1519-1575						
PVOR1_PVMR	176 KD PROTEIN	PAPAYA MOSAIC POTEXVIRUS (PMV)	1-39	299-337	1474-1532				
PVOR1_PVX	223 KD PROTEIN	POTATO VIRUS M (STRAIN RUSSIAN) (PVM)	397-438	682-719					
PVOR1_PVXCP	165 KD PROTEIN	POTATO VIRUS X (PVX)	316-350						

GENE	ALLIOTITS	AB Vinuses (no bacteriophages)	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6
[illegible]	PROTEIN								
PVORF_SMYEA	160 KD PROTEIN		POTATO VIRUS X (STRAIN CP) (PVX)	310-347					
PVORF_WCMVN	150 KD PROTEIN		STRAWBERRY MILD YELLOW EDGE-ASSOCIATED VIRUS (SMYE	308-342	931-965				
PVORF_WCMVO	193 KD PROTEIN		WHITE CLOVER MOSAIC VIRUS (STRAIN M) (WCMV)	1240-1289					
PVP10_NPVAC	103 KD PROTEIN		WHITE CLOVER MOSAIC VIRUS (STRAIN O) (WCMV)	1240-1289					
PVP10_NPVOP	P10 PROTEIN		AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (	7-41					
PVP10_BBSDV	P10 PROTEIN		ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	7-50					
PVP10_RGDV	PROTEIN S10		RICE BLACK STREAKED DWARF VIRUS (RBSDV)	119-182	393-429	506-536			
PVP10_WTV	NONSTRUCTURAL PROTEIN PNS10		RICE GALL DWARF VIRUS (RGDV)	166-273					
PVP11_RDV	NONSTRUCTURAL PROTEIN PNS10		WOUND TUMOR VIRUS (WTV)	220-254					
PVP11_WTV	NONSTRUCTURAL PROTEIN PNS11		RICE DWARF VIRUS (RDV)	35-80	273-314				
PVP11_RDV	NONSTRUCTURAL PROTEIN PNS11		WOUND TUMOR VIRUS (WTV)	16-74					
PVP11_WTV	NONSTRUCTURAL PROTEIN P11		RICE DWARF VIRUS (RDV)	140-181					
PVP10_WTVNI	NONSTRUCTURAL PROTEIN PNS11		WOUND TUMOR VIRUS (WTV)	68-108					
PVP10_HSVED	NONSTRUCTURAL PROTEIN PNS12		WOUND TUMOR VIRUS (STRAIN NI) (WTV)	68-108					
PVP33_IKNYA	CAPSID ASSEMBLY AND DNA MATURATION PROTE		EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (EHV-1)	186-231					
PVP33_HSV4U	PROBABLE CAPSID PROTEIN VP23		HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	41-82	146-180				
PVP26_HSVEB	PROBABLE CAPSID PROTEIN VP23		HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN UGANDA-1102)	47-81					
PVP26_HSVSA	MEMBRANE-ASSOCIATED STRUCTURAL PROTEIN V		EBOLA VIRUS	166-200					
PVP26_NPVOP	CAPSID PROTEIN VP26		EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (EHV-1)	166-200					
PVP26_VZVD	CAPSID PROTEIN VP26		HERPESVIRUS SAIMIRI (STRAIN 11)	36-77					
PVP26_AHSV4	P26 PROTEIN		ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRU	41-78					
PVP2_BTV10	CAPSID PROTEIN VP26		VARICELLA-ZOSTER VIRUS (STRAIN DUMAS) (VZV)	118-159					
PVP2_BTV11	OUTER CAPSID PROTEIN VP2		AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4 / STRAIN VACCI	47-81					
PVP2_BTV12	OUTER CAPSID PROTEIN VP2		BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	116-188	270-304	410-445	614-662	684-720	976-1016
PVP2_BTV13	OUTER CAPSID PROTEIN VP2		BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	166-225					
PVP2_BTV15	OUTER CAPSID PROTEIN VP2		BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	77-111	339-393				
PVP2_EHDV1	OUTER CAPSID PROTEIN VP2		BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE SOUTH AFRICA)	77-111	166-209				
PVP2_ROTBR	OUTER CAPSID PROTEIN VP2		EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1) (EHDV	119-153	376-410	644-701			
PVP2_ROTBU	RNA-BINDING PROTEIN VP2		BOVINE ROTAVIRUS (STRAIN NF)	72-106	247-301	405-451	461-495	893-929	
PVP2_ROTHW	RNA-BINDING PROTEIN VP2		BOVINE ROTAVIRUS (STRAIN UK)	2-94	481-516	533-557	607-655	675-714	
PVP2_ROTPC	RNA-BINDING PROTEIN VP2		HUMAN ROTAVIRUS (STRAIN WA)	2-94	481-517	524-558	601-636	676-715	
PVP2_ROTSI	RNA-BINDING PROTEIN VP2		PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	11-47	482-526	533-567	617-650	683-744	
PVP30_ASFE1	RNA-BINDING PROTEIN VP2		SIMIAN 11 ROTAVIRUS (STRAIN SA11)	1-50	52-99	194-228	510-551	599-643	701-746
PVP31_FKGIV	PHOSPHOPROTEIN P30		AFRICAN SWINE FEVER VIRUS (STRAIN E-75) (ASFV)	16-96	413-517	608-656	680-735		
PVP31_ASFB7	EARLY 31 KD PROTEIN		FROG VIRUS 3 (FV3)	29-89					
PVP35_EBOV	PHOSPHOPROTEIN P35		AFRICAN SWINE FEVER VIRUS (STRAIN BA71V) (ASFV)	227-261					
PVP35_NPVAC	POLYMERASE COMPLEX PROTEIN VP35		EBOLA VIRUS	29-89					
PVP35_NPVBM	EARLY 35 KD PROTEIN		AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (	80-119					
PVP35_VACCC	EARLY 35 KD PROTEIN		BOMBYX MORI NUCLEAR POLYHEDROSIS VIRUS (BMNPV)	54-103					
PVP35_VACCP	IMMUNODOMINANT ENVELOPE PROTEIN P35		VACCINIA VIRUS (STRAIN COPENHAGEN)	14-101	224-258				
PVP35_VACCV	IMMUNODOMINANT ENVELOPE PROTEIN P35		VACCINIA VIRUS (STRAIN L-IVP)	14-101					
PVP35_VAAV	IMMUNODOMINANT ENVELOPE PROTEIN P35		VACCINIA VIRUS (STRAIN WR)	13-51					
PVP3_AHSV4	IMMUNODOMINANT ENVELOPE PROTEIN P35		VARIOLA VIRUS	140-181					
PVP3_BTV10	VP3 CORE PROTEIN		AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4 / STRAIN VACCI	141-181					
PVP3_BTV11	VP3 CORE PROTEIN		BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	173-214	240-274	647-704			
PVP3_BTV13	VP3 CORE PROTEIN		BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	214-253	853-894				
PVP3_BTV14	VP3 CORE PROTEIN		BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	214-253	853-894				
PVP3_EHDV1	VP3 CORE PROTEIN		BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE AUSTRALIA	214-253	853-894				
PVP3_EHDVA	VP3 CORE PROTEIN		EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1) (EHDV	208-246	794-832	811-842			
PVP3_GFLV	VP3 CORE PROTEIN		EPIZOOTIC HEMORRHAGIC DISEASE VIRUS	208-246	733-770	788-832	851-892		
PVP3_RDV	P3 PROTEIN		GRAPEVINE FANLEAF VIRUS (GFLV)	96-133					
PVP3_ROTPC	MAJOR 114 KD STRUCTURAL PROTEIN		RICE DWARF VIRUS (RDV)	299-337	817-873				
PVP3_ROTSI	INNER CORE PROTEIN VP3		PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	24-58	339-383	339-395	406-446	640-688	

PCGENE	ALLSIOTIS	All Viruses (no bacteriophage)								
ENTRYNAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PVP40_EBV	INNER CORE PROTEIN VP3	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	26-76	244-278	331-365	451-492	662-696			
PVP40_HSV11	CAPSID PROTEIN P40	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	433-467							
PVP40_HSVEB	CAPSID PROTEIN P40	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	206-257	599-633						
PVP40_ILTVT	CAPSID PROTEIN P40	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (EHV-1)	180-245							
PVP40_SCMVC	CAPSID PROTEIN P40	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN THORNE V88	1-35	509-557						
PVP40_VZVD	CAPSID PROTEIN P40	SIMIAN CYTOMEGALOVIRUS (STRAIN COLBURN)	457-498							
PVP41_NPVAC	CAPSID PROTEIN P40	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS) (VZV)	387-346	486-522						
PVP41_ROTSI	STRUCTURAL GLYCOPROTEIN GP41	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (	122-166							
PVP42_ROTSI	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	1-35	484-518	529-630					
PVP4A_VACCC	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	1-35	337-518	531-646					
PVP4A_VACCV	MAJOR CORE PROTEIN P4A PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	355-359	718-763	794-828	857-891				
PVP4A_VARV	MAJOR CORE PROTEIN P4A PRECURSOR	VACCINIA VIRUS (STRAIN WR)	262-296	355-359	718-763	794-828	857-891			
PVP4B_FOWPV	MAJOR CORE PROTEIN P4A PRECURSOR	VARIOLA VIRUS	355-389	719-764	795-829	858-892				
PVP4B_VACCC	MAJOR CORE PROTEIN P4B PRECURSOR	FOWLPOX VIRUS	131-172	296-330						
PVP4B_VACCV	MAJOR CORE PROTEIN P4B PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	1-37	121-163	249-283					
PVP4D_VARV	MAJOR CORE PROTEIN P4B PRECURSOR	VACCINIA VIRUS (STRAIN WR)	1-37	123-163	249-283					
PVP4_BTV10	MAJOR CORE PROTEIN P4B PRECURSOR	VARIOLA VIRUS	1-37	123-163	249-283					
PVP4_BTV11	VP4 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	579-617	619-653						
PVP4_BTV13	VP4 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	569-607	609-643						
PVP4_BTV1A	VP4 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	569-607	609-643						
PVP4_NCDV	VP4 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	569-607	609-643						
PVP4_RDV	OUTER CAPSID PROTEIN VP4	NEBRASKA CALF DIARRHEA VIRUS (STRAIN NCDV-LINCOLN)	484-518	528-630						
PVP4_ROTD4	NONSTRUCTURAL PROTEIN PNS4	RICE DWARF VIRUS (RDV)	388-437	444-478	623-679					
PVP4_ROTBC	OUTER CAPSID PROTEIN VP4	BOVINE ROTAVIRUS (SEROTYPE 6 / STRAIN B641)	1-35	112-146	338-379	484-518	528-653			
PVP4_ROTBU	OUTER CAPSID PROTEIN VP4	BOVINE ROTAVIRUS (STRAIN C486)	1-35	484-518	528-630					
PVP4_ROTEH	OUTER CAPSID PROTEIN VP4	BOVINE ROTAVIRUS (STRAIN UK)	1-35	112-146	338-379	484-518	528-653			
PVP4_ROTGI	OUTER CAPSID PROTEIN VP4	EQUINE ROTAVIRUS (STRAIN H-2)	1-35	112-146	227-274	345-379	484-518	528-653		
PVP4_ROTHI	OUTER CAPSID PROTEIN VP4	ROTAVIRUS (GROUP B / STRAIN IDIA)	117-151	476-519						
PVP4_ROTH5	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN 1076)	1-35	236-273	337-378	483-517	530-645			
PVP4_ROTH6	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN RV-5)	1-35	236-273	337-378	483-517	527-652			
PVP4_ROTHD	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN 69M)	1-35	112-146	227-274	338-379	484-518	531-646		
PVP4_ROTHJ	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN DS1)	1-35	236-273	337-378	483-517	527-652			
PVP4_ROTHK	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (STRAIN KU)	1-35	227-274	345-379	484-518	528-588			
PVP4_ROTHL	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (STRAIN KU)	1-35	337-378	483-517	527-652				
PVP4_ROTHM	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (STRAIN L26)	1-35	236-273	337-378	483-517	527-652			
PVP4_ROTHN	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN M37)	1-35	337-378	483-517	530-645				
PVP4_ROTHP	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN M(N1))	1-35	227-274	338-379	484-518	531-645			
PVP4_ROTHR	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN P)	1-35	236-273	337-378	483-517	527-652			
PVP4_ROTHT	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN RAV)	1-36	91-146	227-274					
PVP4_ROTHV	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN ST THOMAS 3)	1-35	236-273	337-378	483-517	530-644			
PVP4_ROTHW	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN VA70	1-35	237-273	344-378	483-517	527-652			
PVP4_ROTP5	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	1-35	237-273	344-378	483-517	527-652			
PVP4_ROTPC	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (SEROTYPE 5 / STRAIN OSU)	112-146	484-518	528-629					
PVP4_ROTPO	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	6-40	127-161	241-278	297-334	580-614			
PVP4_ROTPY	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (STRAIN GOTTFRIED)	1-35	236-273	337-378	483-517	530-564	569-638		
PVP4_ROTRH	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (STRAIN YM)	1-35	112-146	227-274	484-518	528-629			
PVP4_ROTSF	OUTER CAPSID PROTEIN VP4	RHESUS ROTAVIRUS	1-38	112-146	227-274	338-379	484-522	531-646		
PVP4_ROTSS	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11-FEM)	1-35	484-518	528-630					
PVP4_WTV	DE OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11-SEM)	1-35	227-274	345-379	484-518	531-646			
PVP5_AHSV4	NONSTRUCTURAL PROTEIN PNS4	WOUND TUMOR VIRUS (WTV)	28-62	565-621						
PVP5_BRD	OUTER CAPSID PROTEIN VP5	AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4 / STRAIN VACC	7-58	113-229						
PVP5_BTV10	OUTER CAPSID PROTEIN VP5	BROADHAVEN VIRUS (BRD)	45-86	98-276						

PCGENE	ALLNOTIS	All Viruses (no bacteriophages)								
ENTRY_NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PVP5_BTV11	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	14-58	92-150	154-222	404-438				
PVP5_BTV13	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	14-58	92-150	154-222	404-445				
PVP5_BTV1A	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	14-58	154-222	404-438					
PVP5_BTV1S	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE AUSTRALIA)	14-58	92-143	148-222	404-438				
PVP5_BTV2A	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE SOUTH AFRICA)	14-58	92-143	148-222	404-438				
PVP5_EHDV1	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	14-58	92-222	404-438					
PVP5_RDV	OUTER CAPSID PROTEIN VP5	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1) (EHDV	24-58	92-126	163-233	291-325	399-433			
PVP5_WTV	OUTER COAT PROTEIN P5	RICE DWARF VIRUS (RDV)	38-86	95-136	550-594					
PVP61_BTV10	OUTER COAT PROTEIN P5	WOUND TUMOR VIRUS (WTV)	434-503	547-581	751-790					
PVP61_MRDV	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	163-215							
PVP61_NPVAC	PROBABLE NONSTRUCTURAL 61.0 KD PROTEIN	MAIZE ROUGH DWARF VIRUS (MRDV)	138-202							
PVP62_BTV10	61 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (	29-96	351-386						
PVP64_NPVOP	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	67-88	159-207	214-251					
PVP67_NPVAC	MAJOR ENVELOPE GLYCOPROTEIN PRECURSOR	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	296-361	431-479						
PVP67_NPVGM	MAJOR ENVELOPE GLYCOPROTEIN PRECURSOR	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (	44-78	289-364	443-477					
PVP6_BTV11	MAJOR ENVELOPE GLYCOPROTEIN	GALLERIA MELLONELLA NUCLEAR POLYHEDROSIS VIRUS (GNV	206-281							
PVP6_BTV13	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	159-211							
PVP6_BTV17	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	159-211							
PVP6_BTV1S	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	68-102	159-211						
PVP6_BTV2A	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE SOUTH AFRICA)	12-78	163-211						
PVP6_RDV	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	44-78	135-187						
PVP6_WTV	STRUCTURAL PROTEIN P6	RICE DWARF VIRUS (RDV)	150-191	296-344	360-401					
PVP6_WTVNJ	STRUCTURAL PROTEIN P6	WOUND TUMOR VIRUS (WTV)	144-178	286-334	400-434					
PVP74_NPVAC	STRUCTURAL PROTEIN P6	WOUND TUMOR VIRUS (STRAIN NJ) (WTV)	144-178	286-334						
PVP74_NPVCF	P74 PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (	107-436							
PVP75_HSVSA	P74 PROTEIN	CHORISTONEURA FUMIFERANA NUCLEAR POLYHEDROSIS VIRU	185-453							
PVP79_NPVAC	PROBABLE MEMBRANE ANTIGEN 75	HERPESVIRUS SAIMIRI (STRAIN 11)	50-99	163-211	931-984					
PVP7_BTV10	39 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (	44-78	363-397	406-440					
PVP7_BTV11	VP7 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA) (SEROTYPE	184-228							
PVP7_BTV17	VP7 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	201-235							
PVP7_BTV1A	VP7 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	184-228							
PVP7_BTV1S	VP7 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE AUSTRALIA)	184-235							
PVP7_BTV2A	VP7 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE SOUTH AFRICA)	184-228							
PVP7_EHDV1	VP7 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	184-228							
PVP7_RDV	VP7 CORE PROTEIN	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1) (EHDV	16-50	134-178						
PVP7_WTV	NONSTRUCTURAL PROTEIN PNS7	RICE DWARF VIRUS (RDV)	67-95	172-255						
PVP80_NPVAC	NONSTRUCTURAL PROTEIN PNS7	WOUND TUMOR VIRUS (WTV)	47-84	195-243	458-495					
PVP87_NPVOP	CAPSID PROTEIN P80	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (	7-51	99-142	156-204	221-298				
PVP8_BTV10	CAPSID PROTEIN P87	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	88-162	410-451						
PVP8_BTV11	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	54-102	185-219						
PVP8_BTV13	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	54-102	185-219						
PVP8_BTV17	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	54-102	185-219						
PVP8_BTV1A	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	54-102	185-219						
PVP8_BTV1S	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE AUSTRALIA)	54-102	185-219						
PVP8_BTV2A	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE SOUTH AFRICA)	54-102	185-219						
PVP8_FOWPV	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	54-102	185-219						
PVP9_RDV	STRUCTURAL PROTEIN VP8 PRECURSOR	FOWLPOX VIRUS	193-245							
PVP9_WTV	NONSTRUCTURAL PROTEIN PNS9	RICE DWARF VIRUS (RDV)	13-47	186-226						
PVP9_WTVNJ	STRUCTURAL PROTEIN P9	WOUND TUMOR VIRUS (WTV)	140-212							
PVPG_BYDV1	STRUCTURAL PROTEIN P9	WOUND TUMOR VIRUS (STRAIN NJ) (WTV)	140-212							
PVPHE_NPVAC	PUTATIVE GENOME-LINKED PROTEIN PRECURSOR	BARLEY YELLOW DWARF VIRUS (ISOLATE MAV-PS1) (BYDV)	25-59							
PVPHE_NPVOP	29 KD POLYHEDRAL ENVELOPE PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (	146-223							

PEGENE	ALLYIOTIS	All Viruses (no bacteriophage)		AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6
PEGENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
PVPR_SIVAE	34 KD POLYHEDRAL ENVELOPE PROTEIN	ORGYIA PSEUDOTSUGATA NUCLEOPOLYHEDROSIS VIRUS	331-701	326-365					
PVPR_SIVAE		SIMIAN IMMUNODEFICIENCY VIRUS (K78 ISOLATE) (SIV-MAC)	78-115						
PVPU_HIV1A3	VPR PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS TYPE 1 (AGM/SF2 ISOLATE)	1-38						
PVPU_HIV1B1	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH10 ISOLATE) (III)	4-72						
PVPU_HIV1B5	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH8 ISOLATE) (III)	5-72						
PVPU_HIV1BN	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRAIN ISOLATE) (I	4-59						
PVPU_HIV1BA	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRU ISOLATE) (III/	4-72						
PVPU_HIV1C4	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (CDC-451 ISOLATE)	3-60						
PVPU_HIV1EL	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE) (HIV	6-60						
PVPU_HIV1H3	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (H3Z0Z ISOLATE) (III	5-72						
PVPU_HIV1J5	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (J5 ISOLATE) (HIV	2-30						
PVPU_HIV1JR	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JRCSF ISOLATE) (III	4-59						
PVPU_HIV1MA	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MAL ISOLATE) (III	5-50						
PVPU_HIV1ND	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE) (III	4-60						
PVPU_HIV1PV	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE) (III	4-72						
PVPU_HIV1RH	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (RF/HAT ISOLATE) (	1-39						
PVPU_HIV1SI	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SF162 ISOLATE) (III	4-59						
PVPU_HIV1Z3	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z2/CDC-Z34 ISOLA	6-60						
PVPU_SIVCZ	VPU PROTEIN	CHIMPANZEE IMMUNODEFICIENCY VIRUS (SIV(CPZ)) (CIV)	21-58						
PVPX_HV2D2	VPX PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D205.7) (I	42-83						
PVRNA_BSMV	ALPHA-A PROTEIN	BARLEY STRIPE MOSAIC VIRUS (BSMV)	40-74	817-898					
PVS01_ROT51	NONSTRUCTURAL PROTEIN NCVP3	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	248-287						
PVS06_ROTB5	VP6 PROTEIN	BOVINE ROTAVIRUS (GROUP C / STRAIN SHINTOKU)	6-44						
PVS06_ROTGA	VP6 PROTEIN	ROTAVIRUS (GROUP B / STRAIN ADRV) (ADULT DIARRHEA ROT	69-104						
PVS06_ROTGI	VP6 PROTEIN	ROTAVIRUS (GROUP B / STRAIN IDIR)	24-58	64-103					
PVS06_ROTHC	VP6 PROTEIN	HUMAN ROTAVIRUS (GROUP C / STRAIN BRISTOL)	9-43						
PVS06_ROTPC	VP6 PROTEIN	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	9-43						
PVS07_ROTBJ	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (STRAIN KH-4)	2-36	282-320					
PVS07_ROTBU	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (STRAIN UK)	88-133	199-236					
PVS07_ROTP5	NONSTRUCTURAL PROTEIN NCVP3	PORCINE ROTAVIRUS (SEROTYPE 5 / STRAIN OSU)	88-103	202-236					
PVS07_ROTS1	NONSTRUCTURAL PROTEIN NCVP3	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	88-133	199-236					
PVS08_ROTBU	NONSTRUCTURAL PROTEIN NCVP4	BOVINE ROTAVIRUS (STRAIN UK)	2-70	75-119	160-226				
PVS08_ROTS1	NONSTRUCTURAL PROTEIN NS2/VP9	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	2-68	144-212	217-255				
PVS09_ROTB4	NONSTRUCTURAL PROTEIN NCVP4	BOVINE ROTAVIRUS (SEROTYPE 6 / STRAIN B641)	2-34	282-320					
PVS09_ROTB5	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (STRAIN A5)	2-43	282-320					
PVS09_ROTB6	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (SEROTYPE 6 / STRAIN 61A)	2-34	282-320					
PVS09_ROTBA	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (STRAIN A44)	2-34	282-320					
PVS09_ROTBB	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (SEROTYPE 10 / STRAIN B223)	2-34	282-320					
PVS09_ROTBK	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (STRAIN KK1)	2-34	282-320					
PVS09_ROTBN	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (STRAIN NCDV)	2-34.	282-320					
PVS09_ROTBT	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (SEROTYPE 1 / STRAIN 1449)	2-41	282-320					
PVS09_ROTBU	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (STRAIN UK)	2-34	282-320					
PVS09_ROTC7	GLYCOPROTEIN VP7	CHICKEN ROTAVIRUS A (SEROTYPE 7 / STRAIN C112)	295-336						
PVS09_ROTEL	GLYCOPROTEIN VP7	EQUINE ROTAVIRUS (STRAIN L338)	282-320						
PVS09_ROTGA	GLYCOPROTEIN VP7	ROTAVIRUS (GROUP B / STRAIN ADRV) (ADULT DIARRHEA ROT	43-71						
PVS09_ROTGI	GLYCOPROTEIN VP7 PRECURSOR	ROTAVIRUS (GROUP B / STRAIN IDIR)	45-79						
PVS09_ROTH4	GLYCOPROTEIN VP7 PRECURSOR	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN KY-4)	2-43	282-320					
PVS09_ROTH9	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 9 / STRAIN K9)	282-320						
PVS09_ROTHA	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN HUJ)	282-320						
PVS09_ROTHB	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 6 / STRAIN B37)	2-43	282-320					
PVS09_ROTHD	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN D31)	282-320						
PVS09_ROTHH	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN HONJO)	282-320						
PVS09_ROTHL	GLYCOPROTEIN VP7								

PCGENE	ALLSIOTIS	All Viruses (no bacteriophages)								
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PVS09_ROTHS1	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (STRAIN L26)	1-35	282-320						
PVS09_ROTHO	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN M37)	2-43	282-320						
PVS09_ROTHP	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN MO AND STRAIN D)	2-43	282-320						
PVS09_ROTHR	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN P)	282-320							
PVS09_ROTHS	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN RRV)	282-320							
PVS09_ROTHT	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN S2)	282-320							
PVS09_ROTHV	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN ST THOMAS 3)	18-56	206-242	282-320					
PVS09_ROTHW	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN VA70)	18-56	206-242	282-320					
PVS09_ROTP2	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	2-43	282-320						
PVS09_ROTP3	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 3 / STRAIN AT/76)	282-320							
PVS09_ROTP4	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 3 / STRAIN CRW-8)	282-320							
PVS09_ROTP5	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 4 / STRAIN OSU)	2-56	206-242	282-320					
PVS09_ROTP6	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 5 / STRAIN OSU)	282-320							
PVS09_ROTPB	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 5 / STRAIN YFR-41)	282-320							
PVS09_ROTPK	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 4 / STRAIN BEN-144)	18-56	206-242	282-320					
PVS09_ROTPM	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (STRAIN K)	18-56	282-320						
PVS09_ROTPY	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 4 / STRAIN BMI-1)	18-56	206-242	282-320					
PVS09_ROTRH	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (STRAIN YM)	1-35	282-320						
PVS09_ROTSI	GLYCOPROTEIN VP7	RHESUS ROTAVIRUS	282-320							
PVS10_ROTBN	GLYCOPROTEIN VP7	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	282-320							
PVS10_ROTBS	NONSTRUCTURAL GLYCOPROTEIN NCVP5	BOVINE ROTAVIRUS (STRAIN NCDV)	73-161							
PVS10_ROTBU	MINOR OUTER CAPSID PROTEIN	BOVINE ROTAVIRUS (GROUP C / STRAIN SHINTOKU)	17-58							
PVS10_ROTH2	NONSTRUCTURAL GLYCOPROTEIN NCVP5	BOVINE ROTAVIRUS (STRAIN UK)	73-161							
PVS10_ROTH7	NONSTRUCTURAL GLYCOPROTEIN NCVP5	HUMAN ROTAVIRUS (STRAIN A28)	73-162							
PVS10_ROTH8	NONSTRUCTURAL GLYCOPROTEIN NCVP5	HUMAN ROTAVIRUS (STRAIN A64 / CLONE 2)	73-162							
PVS10_ROTHC	NONSTRUCTURAL GLYCOPROTEIN NCVP5	HUMAN ROTAVIRUS (STRAIN A64 / CLONE 6)	73-162							
PVS10_ROTHW	MINOR OUTER CAPSID PROTEIN	HUMAN ROTAVIRUS (GROUP C / STRAIN BRISTOL)	121-158							
PVS10_ROTS1	NONSTRUCTURAL GLYCOPROTEIN NCVP5	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	73-136							
PVS11_ROTGA	NONSTRUCTURAL GLYCOPROTEIN NCVP5	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	73-162							
PVS11_ROTGI	NONSTRUCTURAL PROTEIN	ROTAVIRUS (GROUP B / STRAIN ADRV) (ADULT DIARRHEA ROTA	24-65	96-130						
PVS11_ROTH5	NONSTRUCTURAL PROTEIN	ROTAVIRUS (GROUP B / STRAIN IDIR)	9-68							
PVS11_ROTH6	MINOR OUTER CAPSID PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN RV-5)	100-145							
PVS11_ROTH8	MINOR OUTER CAPSID PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN 69M)	107-144							
PVS11_ROTHD	MINOR OUTER CAPSID PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN B37)	107-144							
PVS11_ROTHW	MINOR OUTER CAPSID PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN DS1)	111-145							
PVS11_ROTS1	MINOR OUTER CAPSID PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	111-145							
PVS48_TBRVC	MINOR OUTER CAPSID PROTEIN	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	111-145							
PVS11_MUMP1	SATELLITE RNA 46 KD PROTEIN	TOMATO BLACK RING VIRUS (STRAIN C) (TBRV)	217-265							
PVS11_MUMP2	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN SBL-1), AND MUMPS VIRUS (STRAIN SBL	9-46							
PVS11_MUMP4	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN EDINGBURGH 2), AND (STRAIN EDINGB	13-47							
PVSH_MUMPA	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN EDINGBURGH 4)	13-47							
PVS11_MUMPB	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN MATSUYAMA)	13-51							
PVS11_MUMPE	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN BELFAST)	13-52							
PVS11_MUMPJ	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN ENDERS)	9-46							
PVS11_MUMPK	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN JERYL-LYNN)	9-46							
PVS11_MUMPL	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN KILHAM)	9-51							
PVS11_MUMPM	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN BRISTOL 1)	13-55							
PVSH_MUMPT	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	17-51							
PVS11_MUMPU	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN TAKAHASHI)	13-47							
PVS11_REOVD	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN URABE VACCINE AM9)	13-47							
PVS11_REOVJ	SIGMA 1 PROTEIN PRECURSOR	REOVIRUS (TYPE 3 / STRAIN DEARING)	8-122	127-175	222-259					
PVS11_REOVL	SIGMA 1 PROTEIN PRECURSOR	REOVIRUS (TYPE 3 / STRAIN DSIONES)	1-178							

PCGENE	ALLNOTES	All Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
[illegible]_NAME	PROTEIN	VIRUS	1-107	113-190						
PVS12_REOVD	SIGMA 1 PROTEIN PRECURSOR	REOVIRUS (TYPE 1 / STRAIN LANG)								
PVS12_REOVL	SIGMA 3 PROTEIN	REOVIRUS (TYPE 3 / STRAIN DEARING)	350-384							
PVS12_REOVD	SIGMA 3 PROTEIN	REOVIRUS (TYPE 1 / STRAIN LANG)	350-384							
PVS15_REOVJ	SIGMA 1-S PROTEIN	REOVIRUS (TYPE 3 / STRAIN DEARING)	85-119							
PVS12_HEVBU	SIGMA 1-S PROTEIN	REOVIRUS (TYPE 2 / STRAIN DYSONES)	7-45							
PVS12_HEVAE	STRUCTURAL PROTEIN 3 PRECURSOR	HEPATITIS E VIRUS (STRAIN BURMA) (HEV)	310-353							
PVS12_HEVAY	STRUCTURAL PROTEIN 3 PRECURSOR	HEPATITIS E VIRUS (STRAIN MEXICO) (HEV)	317-351							
PVS13_HEVPA	STRUCTURAL PROTEIN 3 PRECURSOR	HEPATITIS E VIRUS (STRAIN BIYAMMAR) (HEV)	310-353							
PVS13_HEVRM	STRUCTURAL PROTEIN 3 PRECURSOR	HEPATITIS E VIRUS (STRAIN PAKISTAN) (HEV)	318-352							
PVT13A_CAPVI	STRUCTURAL PROTEIN 2	HEPATITIS E VIRUS (ISOLATE BURESUS)(HEV)	186-220							
PVT4_CAPVI	PROTEIN T1A	CAPRIPOXVIRUS (STRAIN INS-1)	128-158							
PVT4_CAPVK	T4 PROTEIN	CAPRIPOXVIRUS (STRAIN INS-1)	86-120							
PVT4R_EBV	T4 PROTEIN	CAPRIPOXVIRUS (STRAIN KS-1)	86-120							
PVT4R_HCMVA	PROBABLE DNA PACKAGING PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	231-290	395-429						
PVT4R_HSVSD	PROBABLE DNA PACKAGING PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	411-455	617-658						
PVT4R_HSVEB	PROBABLE DNA PACKAGING PROTEIN	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	468-502							
PVT4R_HSVII	PROBABLE DNA PACKAGING PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AUSP) (EHV-1)	11-45							
PVT4R_HSVSA	PROBABLE DNA PACKAGING PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	98-136	698-744						
PVT4R_VZVD	PROBABLE DNA PACKAGING PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	226-267							
PVV_PVMA	PROBABLE DNA PACKAGING PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS) (VZV)	388-432							
PVV1_SENDS	V PROTEIN	HUMAN PARAINFLUENZA 4A VIRUS (STRAIN TOSHIBA) (PIV-4A)	6-38							
PY101_SSV1	V1 PROTEIN	SENDAI VIRUS (STRAIN 6N4)	104-138							
PY108_SSV1	HYPOTHETICAL 10.1 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	16-40							
PY110_SSV1	HYPOTHETICAL 10.8 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	4-45							
PY119_SSV1	HYPOTHETICAL 11.9 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	33-59							
PY11K_TYDVA	HYPOTHETICAL 11.9 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	10-46							
PY12K_PEVCG	HYPOTHETICAL 12.3 KD PROTEIN	TOBACCO YELLOW DWARF VIRUS (STRAIN AUSTRALIA) (TYDV)	93-87							
PY12K_ECVF9	HYPOTHETICAL 12.3 KD PROTEIN IN COAT PROTEIN	FELINE CALICIVIRUS (STRAIN F9) (FCV)	1-31							
PY12K_RUBV	HYPOTHETICAL 12.3 KD PROTEIN IN COAT PROTEIN	FELINE CALICIVIRUS (STRAIN F9) (FCV)	4-31							
PY12K_RUBVJ	HYPOTHETICAL 12.7 KD PROTEIN IN COAT PROTEI	RABBIT HEMORRHAGIC DISEASE VIRUS (RHDV)	13-50							
PY13K_CLVK	HYPOTHETICAL 12.3 KD PROTEIN IN COAT PROTEIN	RABBIT HEMORRHAGIC DISEASE VIRUS (STRAIN V-351) (RHDV)	13-50							
PY13K_MPVOP	HYPOTHETICAL 11.1 KD PROTEIN	CASSAVA LATENT VIRUS (STRAIN NIGERIAN)	40-77							
PY13K_SSV1	HYPOTHETICAL 10.5 KD PROTEIN IN 19 KD PROTEIN	ORGYIA PSEUDOTSUGATA NUCLEOCAPSID POLYHEDROSIS VIRUS	42-77							
PY14K_SSV1	HYPOTHETICAL 11.3 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	16-67							
PY16K_ADE02	HYPOTHETICAL 13.7 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	2-34	62-96						
PY16K_SSV1	HYPOTHETICAL 11.9 KD PROTEIN C-168	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	7-39							
PY17K_SSV1	HYPOTHETICAL 11.9 KD PROTEIN	HUMAN ADENOVIRUS TYPE 2	119-166							
PY18K_SSV1	HYPOTHETICAL 11.8 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	1-31	33-111						
PY18K_SSV1	HYPOTHETICAL 11.8 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	1-45	119-153						
PY20K_SSV1	HYPOTHETICAL 11.0 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	102-136							
PY23K_SSV1	HYPOTHETICAL 20.4 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	73-107							
PY3_SOCMV	HYPOTHETICAL 21.5 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	127-188							
PY12K_SSV1	HYPOTHETICAL PROTEIN 1	SOYBEAN CHLOROTIC MOTTLE VIRUS	117-134							
PY12K_SSV1	HYPOTHETICAL 11.5 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	1-91	108-141						
PY18K_MPVAC	HYPOTHETICAL 21.1 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	230-278							
PY3_SOCMV	HYPOTHETICAL 37.7 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	133-201							
PY3_SOCMV	HYPOTHETICAL PROTEIN 3	SOYBEAN CHLOROTIC MOTTLE VIRUS	115-169							
PY3K9_SSV1	HYPOTHETICAL 5.9 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	1-51							
PY7_SOCMV	HYPOTHETICAL PROTEIN 7	SOYBEAN CHLOROTIC MOTTLE VIRUS	56-94							
PY11K_SSV1	HYPOTHETICAL 11.7 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	81-123	503-537	546-587	658-700				
PY1_SOCMV	HYPOTHETICAL PROTEIN 1	SOYBEAN CHLOROTIC MOTTLE VIRUS	46-83							
PY1004_FOWPV4	HYPOTHETICAL BAMHI ORF1 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438MUNICH)	174-115	184-221						

PUGENE	ALLMOTIF	All Viruses (no bacteriophages)								
FILE_NAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PV005_FOWPM	HYPOTHETICAL BAMHII ORF4 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	29-30							
PV006_FOWPM	HYPOTHETICAL BAMHII ORF5 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	1-37	61-95						
PV007_FOWPM	HYPOTHETICAL BAMHII ORF6 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	115-149							
PV008_FOWPM	HYPOTHETICAL BAMHII ORF7 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	344-378							
PV012_FOWPM	HYPOTHETICAL BAMHII ORF10 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	162-233							
PV013_FOWPM	HYPOTHETICAL BAMHII ORF12 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	4-47	117-153						
PVBL2_EBV	HYPOTHETICAL BAMHII ORF13 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	122-163							
PVDNH_HSV57	HYPOTHETICAL BBLF3 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	458-506							
PVF30_FOWPI	HYPOTHETICAL 24 1 KD PROTEIN IN DHFR 3 REGION	HERPESVIRUS SAIMIRI (STRAIN 484-77)	147-188							
PVGA1_HSV2B	HYPOTHETICAL 36 9 KD PROTEIN	FOWLPOX VIRUS (STRAIN FP-1)	160-204							
PVGA1_HSV2M	HYPOTHETICAL 33 6 KD PROTEIN IN GLYCOPROTEI	MAREK'S DISEASE HERPESVIRUS (STRAIN DC-1) (MDHV)	176-211							
PVH22_VACCV	HYPOTHETICAL 33 6 KD PROTEIN IN GLYCOPROTEI	MAREK'S DISEASE HERPESVIRUS (STRAIN MD5) (MDHV)	176-211							
PVHR3_VACCV	HYPOTHETICAL 31 7 KD HINDIII-C PROTEIN	VACCINIA VIRUS (STRAIN WR)	34-78	95-139						
PVKR4_EBV	HYPOTHETICAL HOST RANGE 27 4 KD PROTEIN	VACCINIA VIRUS (STRAIN WR)	24-58	181-222						
PVLI5_ADE41	HYPOTHETICAL BKRF4 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	16-58							
PVLR2_EDV	HYPOTHETICAL 12 4 KD PROTEIN IN 33 KD PROTEIN	HUMAN ADENOVIRUS TYPE 41	39-81							
PVOR1_COYMV	HYPOTHETICAL BLRF3 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	64-125							
PVOR2_COYMV	HYPOTHETICAL 33 KD PROTEIN	COMMELINA YELLOW MOTTLE VIRUS (COYMV)	94-147							
PVOR3_LELV	HYPOTHETICAL 15 KD PROTEIN	COMMELINA YELLOW MOTTLE VIRUS (COYMV)	33-77							
PVOR3_TTV1	HYPOTHETICAL 28 4 KD PROTEIN	LELYSTAD VIRUS (LV)	100-134							
PVOR5_ADEG1	HYPOTHETICAL 6 9 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1) (TTV1)	14-56							
PVORA_TTV1	HYPOTHETICAL 31 5 KD PROTEIN	AVIAN ADENOVIRUS GAL1 (STRAIN PHELPS) (FOWL ADENOVIRU	70-127							
PVORD_TTV1	HYPOTHETICAL 8 1 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1) (TTV1)	21-67							
PVORF_TTV1	HYPOTHETICAL 13 4 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1) (TTV1)	6-51	89-130						
PVORL_TTV1	HYPOTHETICAL 15 3 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1) (TTV1)	78-122							
PVORQ_TTV1	HYPOTHETICAL 26 8 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1) (TTV1)	1-45							
PVORT_TTV1	HYPOTHETICAL 7 3 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1) (TTV1)	1-43							
PVORW_TTV1	HYPOTHETICAL 38 7 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1) (TTV1)	4-38	281-315						
PVP12_RTBV	HYPOTHETICAL 12 1 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1) (TTV1)	4-89							
PVP13_RTBVP	HYPOTHETICAL P13 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS (RTBV)	33-72							
PVP24_RTBV	HYPOTHETICAL P13 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES) (RTB	33-72							
PVP24_RTBVP	HYPOTHETICAL P24 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS (RTBV)	51-101	106-157						
PVP46_RTBV	HYPOTHETICAL P24 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES) (RT	51-101	106-157						
PVP46_RTBVP	HYPOTHETICAL P46 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS (RTBV)	49-111	197-231						
PVP63_NPVAC	HYPOTHETICAL P46 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES) (RT	49-111	197-231						
PVP7A_TNVA	HYPOTHETICAL PROTEIN IN P6 5 5'REGION	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (	32-73							
PVPOH_NPVAC	HYPOTHETICAL P7A PROTEIN	TOBACCO NECROSIS VIRUS (STRAIN A) (TNV)	1-45							
PVPOL_IPNV3	HYPOTHETICAL 33 6 KD PROTEIN IN POLYHEDRIN 3	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (	116-153							
PVQ1_AMEPV	HYPOTHETICAL 17 3 KD PROTEIN	INFECTIOUS PANCREATIC NECROSIS VIRUS (SEROTYPE JASPER)	25-66							
PVQ3_AMEPV	HYPOTHETICAL 7 6 KD PROTEIN IN TK 5'REGION	AMSACTA MOOREI ENTOMOPOXVIRUS (AMEPV)	9-61							
PVRF2_HSV6G	HYPOTHETICAL PROTEIN IN TK 5'REGION	AMSACTA MOOREI ENTOMOPOXVIRUS (AMEPV)	1-57	62-96	149-183					
PVRF3_HSV6G	HYPOTHETICAL PROTEIN RF2	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	193-264							
PVRF4_HSV6G	HYPOTHETICAL PROTEIN RF3	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	134-175							
PVRP2_IRV6	HYPOTHETICAL PROTEIN RF4	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	232-286	404-442						
PVRR1_EBV	REPETITIVE PROTEIN ORF2	CHILO IRIDESCENT VIRUS (CIV) (INSECT IRIDESCENT VIRUS TYP	1-45							
PVSR1_EBV	HYPOTHETICAL BRRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	96-130							
PVTR1_EBV	HYPOTHETICAL BSRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	98-177							
PVUB2_NPVOP	HYPOTHETICAL BTRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	390-424							
PVVAC_VACCC	HYPOTHETICAL 24 0 KD PROTEIN IN UBIQUITIN 3'R	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	25-69	170-204						
PVVAG_VACCC	HYPOTHETICAL 14 4 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	39-83							
PVVAH_VACCC	HYPOTHETICAL 9 3 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	3-37							
PVVAN_VACCC	HYPOTHETICAL 14 5 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	78-112							

PCGENE	ALLNIOTIS	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
ELLSAALE	PROTEIN	VIRUS	23-57							
PYVBH_VACCC	HYPOTHETICAL 19 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	5-39							
PYVCC_VACCC	HYPOTHETICAL 14 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	11-48							
PYVDB_VACCC	HYPOTHETICAL 92 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	29-80							
PYVDB_VACCV	HYPOTHETICAL 83 KD PROTEIN	VACCINIA VIRUS (STRAIN WR)	46-80							
PYVDC_VACCV	HYPOTHETICAL 83 KD PROTEIN	VACCINIA VIRUS (STRAIN WR)	7-41							
PYVDB_VACCC	HYPOTHETICAL 77 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	10-51							
PYVIA_VACCC	HYPOTHETICAL 84 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	9-53							
	HYPOTHETICAL 81 KD PROTEIN									

TABLE VI

107 X 178 X 4 SEARCH MOTIF RESULTS SUMMARY

FOR ALL VIRAL (NON-BACTERIOPHAGE) PROTEINS

PCGENE	107x178x4	All Viruses (or bacteriophage)	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1
FILE NAME	PROTEIN	VIRUS	107-414	1097-1114	1142-1160						
PINK_TRVSY	POT 194 KD PRO	TOBACCO RATTLE VIRUS (STRAIN SYSH)									
PAANT_HDVAM	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE AMERICAN)	106-133								
PAANT_HDVDJ	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE AMERICAN)	106-133								
PAANT_HDVIT	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE AMERICAN)	106-133								
PAANT_HDVKU	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE AMERICAN)	106-133								
PAANT_HDVSI	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE AMERICAN)	19-41	106-133							
PAANT_HDVSJ	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE AMERICAN)	19-41	106-133							
PAANT_HDVWO	DELTA ANTIGEN	HEPATITIS DELTA VIRUS (ISOLATE AMERICAN)	106-133								
PATIH_FOWPM	ANTITHROMBIN-III HOMOLOG	FOWLPOX VIRUS (ISOLATE HP-438(MUNICH))	32-106								
PATTI_VACCV	94 KD A-TYPE INCLUSION PRO	VACCINIA VIRUS (STRAIN WR)	14-56	67-94	424-472	550-625					
PATTI_VARV	81 KD A-TYPE INCLUSION PRO	VARIOLA VIRUS	67-94	415-504	571-603						
PATTI_VSV11	ALPHA TRANS-IND FACTOR 32 KD PRO	HERPES SIMPLEX VIRUS TYPE 1 (STRAIN 11)	208-235								
PATTI_VSVIF	ALPHA TRANS-IND FACTOR 32 KD PRO	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN F)	208-235								
PATTI_VSVEB	ALPHA TRANS-IND FACTOR 32 KD PRO	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	294-321								
PATTN_VSVEB	ALPHA TRANS-IND PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	315-289								
PATT_COWPX	A-TYPE INCLUSION PROTEIN	COWPOX VIRUS	14-56	67-94	428-498	572-630	837-861	914-990	1214-1261		
PBLU_EBV	DELTA TRANS-ACTIVATOR PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	193-280								
PCAM_VACCC	CELL SURFACE BINDING PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	84-111	117-144							
PCAM_VACCV	CELL SURFACE BINDING PROTEIN	VACCINIA VIRUS (STRAIN WR)	84-111	117-144							
PCAM_VARV	CELL SURFACE BINDING PROTEIN	VARIOLA VIRUS	84-111	117-144							
PCELF_HSV1B	CELL FUSION PROTEIN PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAINS AB4P and KyA)	312-339								
PCGM2_HSV1A	CYCLIN HOMOLOG	HERPESVIRUS SAIMIRI (STRAIN 11)	127-154								
PCOAT_POVHA	COAT PROTEIN VP1	HAMSTER POLYOMA VIRUS	139-186								
PCOAT_BPDV	COAT PROTEIN VP2	BUDGERIGAR FLEDGLING DISEASE VIRUS	160-187								
PCOAT_POVBO	COAT PROTEIN VP2	BOVINE POLYOMA VIRUS	49-76								
PCOAT_POVC	COAT PROTEIN VP2	POLYOMA VIRUS JC	131-64								
PCOAT_POVLY	COAT PROTEIN VP2	LYMPHOTROPIC POLYOMA VIRUS	110-104								
PCOAT_POVSK	COAT PROTEIN VP2	MOUSE POLYOMA VIRUS (STRAIN KILHAM)	23-49								
PCOAT_SV40	COAT PROTEIN VP2	SIMIAN VIRUS 40	178-205								
PCOAT_AAV2	PROBABLE COAT PROTEIN 3	ADENO-ASSOCIATED VIRUS 2	120-147								
PCOAT_TTV1	COAT PROTEIN VP1	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	3-30								
PCOAT_ADVG	COAT PROTEIN VP1	ALEUTIAN MINK DISEASE PARVOVIRUS (STRAIN G)	194-221								
PCOAT_BLRV	COAT PROTEIN	BEAN LEAFROLL VIRUS	96-133								
PCOAT_CAMVC	COAT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	63-90	193-220	461-488						
PCOAT_CAMVD	COAT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN DA)	64-91	194-221							
PCOAT_CAMVE	COAT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN BSC)	63-90	193-220							
PCOAT_CAMVN	COAT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY8153)	63-90	193-219	461-488						
PCOAT_CAMVS	COAT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN STRASBOURG)	64-91	194-221							
PCOAT_CAMVV	COAT PROTEIN	CARNATION MOTTLE VIRUS	16-43								
PCOAT_CNVPI	MAJOR CAPSID PROTEIN	PARAMECIUM BURSARIA CHLORELLA VIRUS 1	41-86								
PCOAT_CNV	COAT PROTEIN	CUCUMBER NECROSIS VIRUS	328-362								
PCOAT_CSMV	COAT PROTEIN	CHLORIS STRIATE MOSAIC VIRUS	63-89								
PCOAT_CYMV	COAT PROTEIN	CLOVER YELLOW MOSAIC VIRUS	170-208								
PCOAT_FCVCA	COAT PROTEIN	FELINE CALICIVIRUS (STRAIN CFI/68 FIV)	346-406								
PCOAT_FCVF4	COAT PROTEIN	FELINE CALICIVIRUS (STRAIN JAPANESE F4)	116-143	346-406							
PCOAT_FCVF9	COAT PROTEIN	FELINE CALICIVIRUS (STRAIN F9)	319-346	349-403							
PCOAT_FHVD	PROBABLE COAT PROTEIN	FIGWORT MOSAIC VIRUS (STRAIN DXS)	220-247	338-385							
PCOAT_LSV	COAT PROTEIN	LILY SYMPTOMLESS VIRUS	131-700	246-273							
PCOAT_MSIV	COAT PROTEIN	MISCANTHUS STREAK VIRUS	139-166								
PCOAT_ORSV	COAT PROTEIN	ODONTOGLOSSUM RINGSPOT VIRUS	104-133								
PCOAT_PAVHB	PROBABLE COAT PROTEIN VP1	HUMAN PARVOVIRUS B19	324-351	369-396							
PCOAT_POPMV	COAT PROTEIN	POPLAR MOSAIC VIRUS (ISOLATE ATCC PV215)	46-73								
PCOAT_SOCMV	COAT PROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	128-162								
PCOAT_TAMV	GENOME POLYPROTEIN	TAMARILLO MOSAIC VIRUS	21-48								
PCOAT_TAV	COAT PROTEIN	TOMATO ASPERMY VIRUS	23-50								
PCOAT_TBSVB	COAT PROTEIN	TOMATO BUSHY STUNT VIRUS (STRAIN BS-3)	3-30	41-68							
PCOAT_TBSVC	COAT PROTEIN	TOMATO BUSHY STUNT VIRUS (STRAIN CHERRY)	93-134								

PCGENE	10/21/94	All Viruses (no bacteriophage)									
FILE NAME	PROTEIN	VIRUS									
PCOAT_TCV	COAT PROTEIN	TURNIP CRINKLE VIRUS	332-359								
PCOAT_TMGMV	COAT PROTEIN	TOBACCO MILD GREEN MOSAIC VIRUS	104-131								
PCOAT_TMV	COAT PROTEIN	TOBACCO MOSAIC VIRUS (VULGARE)	104-131								
PCOAT_TMVCO	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN COWPEA)	76-103								
PCOAT_TMVDA	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN DAHLEMENSE)	104-131								
PCOAT_TMVEA	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN EA)	104-131								
PCOAT_TMVO	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN O and KOKUBU)	104-131								
PCOAT_TMVOM	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN OM)	104-131								
PCOAT_TMVTO	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN TOMATO)	104-131								
PCOAT_TNVA	COAT PROTEIN	TOBACCO NECROSIS VIRUS (STRAIN A)	90-117								
PCOAT_TRVSA	COAT PROTEIN	TOBACCO RATTLE VIRUS (STRAINS PSG and PLB)	118-145								
PCOAT_TYDVA	COAT PROTEIN	TOBACCO YELLOW DWARF VIRUS (STRAIN AUSTRALIA)	16-37								
PCOAT_TYMV	COAT PROTEIN	TURNIP YELLOW MOSAIC VIRUS	41-68								
PCOAT_TYMVA	COAT PROTEIN	TURNIP YELLOW MOSAIC VIRUS (AUSTRALIAN ISOLATE)	41-68								
PDNBI_ADE07	E4ALY E1A DNA-BINDING PROTEIN	HUMAN ADENOVIRUS TYPE 7	46-73								
PDNBI_EBV	MAJOR DNA-BINDING PROTEIN	EPSTEIN-BAAR VIRUS (STRAIN B95-8)	977-1004	1041-1068							
PDNBI_HCMVA	MAJOR DNA-BINDING PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	437-464								
PDNBI_HSV5A	MAJOR DNA-BINDING PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	333-360	512-539							
PDNBI_MCMV5	MAJOR DNA-BINDING PROTEIN	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	386-418								
PDNBI_POVC	DNA-BINDING PROTEIN	POLYOMAVIRUS JC	1-29								
PDNBI_SCMVC	MAJOR DNA-BINDING PROTEIN	SIMIAN CYTOMEGALOVIRUS (STRAIN COLBURN)	433-462	532-559							
PDNLI_VACCC	DNA LIGASE	VACCINIA VIRUS (STRAIN COPENHAGEN)	104-131	172-199	338-385						
PDNLI_VACCV	DNA LIGASE	VACCINIA VIRUS (STRAIN WR)	104-131	172-199	338-385						
PDNLI_VARV	DNA LIGASE	VARIOLA VIRUS	104-131	172-199	338-385						
PDPOL_ADE12	DNA POLYMERASE	HUMAN ADENOVIRUS TYPE 12	403-431	502-529							
PDPOL_CBEBV	DNA POLYMERASE	CHORISTONEURA BIENNIS ENTOMOPOXVIRUS	32-64	202-240							
PDPOL_CHVN2	DNA POLYMERASE	CHLORELLA VIRUS NY-2A	338-383								
PDPOL_CHVP1	DNA POLYMERASE	PARAMECIUM BURSARIA CHLORELLA VIRUS 1	338-365								
PDPOL_FOWPV	DNA POLYMERASE	FOWLPOX VIRUS	13-51	370-416	621-655	717-749					
PDPOL_HCMVA	DNA POLYMERASE	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	335-360								
PDPOL_HPBDS	DNA POLYMERASE	DUCK HEPATITIS B VIRUS (BROWN SHANGHAI DUCK ISOLATE S5)	5-39								
PDPOL_HPBDC	DNA POLYMERASE	DUCK HEPATITIS B VIRUS (STRAIN CHINA)	5-39								
PDPOL_HPBDW	DNA POLYMERASE	DUCK HEPATITIS B VIRUS (WHITE SHANGHAI DUCK ISOLATE S11)	5-39	104-131							
PDPOL_HPBG3	DNA POLYMERASE	GROUND SQUIRREL HEPATITIS VIRUS	211-235								
PDPOL_HPBHE	DNA POLYMERASE	HERON HEPATITIS B VIRUS	5-39								
PDPOL_HPBVP	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN PHILIPPINO/PFD/W294)	416-443								
PDPOL_HPBVZ	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE ADYW)	403-430								
PDPOL_HSV1I	DNA POLYMERASE	ICP-ALPHA HERPESVIRUS 1	328-366	418-447							
PDPOL_HSV5A	DNA POLYMERASE	HERPESVIRUS SAIMIRI (STRAIN 11)	433-452								
PDPOL_NPVAC	DNA POLYMERASE	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	398-443								
PDPOL_NPVLD	DNA POLYMERASE	LYMANTRIA DISPAR MULTICAPSID NUCLEAR POLYHEDROSIS VIRUS	335-384								
PDPOL_VACCC	DNA POLYMERASE	VACCINIA VIRUS (STRAIN COPENHAGEN)	376-391								
PDPOL_VACCV	DNA POLYMERASE	VACCINIA VIRUS (STRAIN WR)	376-391								
PDPOL_VARV	DNA POLYMERASE	VARIOLA VIRUS	369-396								
PDPOL_WHV1	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 1	315-326								
PDPOL_WHV59	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 59	306-331								
PDPOL_WHV7	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 7	212-242	296-331							
PDPOL_WHV8	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 8	211-241	289-320							
PDPOL_WHV11	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 8	212-242	296-331							
PDTOX_CORDE	DIPHTHERIA TOXIN HOMOLOG CRM101 FREC	CORYNEPHAGE BETA	516-533								
PDTX_CORDE	DIPHTHERIA TOXIN PRECURSOR	CORYNEPHAGE BETA	533-560								
PDTX_COROM	DIPHTHERIA TOXIN PRECURSOR	CORYNEPHAGE OMEGA	516-533								
PDUT_HSV6I	DEOXYU F: TRIPHOSPH NUCHYDROLASE	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	90-117								
PDUT_HSV5A	DEOXYU F: TRIPHOSPH NUCHYDROLASE	HERPESVIRUS SAIMIRI (STRAIN 11)	179-213								
PE1BL_ADE07	E1B PROTEIN, LARGE T-ANTIGEN	HUMAN ADENOVIRUS TYPE 7	136-153								
PE1BL_ADE40	E1B PROTEIN, LARGE T-ANTIGEN	HUMAN ADENOVIRUS TYPE 40	134-163								
PE1BS_ADE12	E1B PROTEIN, SMALL T-ANTIGEN	HUMAN ADENOVIRUS TYPE 12	3-30								

PCGENE	(07:17:24:4	All Viruses (no bacteriophages)									
FILE NAME	PROTEIN	VIRUS									
PE18S_ADE41	E1B PROTEIN, SMALL T-ANTIGEN	MOUSE ADENOVIRUS TYPE 1	113-173								
PE18S_ADE03	EARLY E1B 14 KD PROTEIN	HUMAN ADENOVIRUS TYPE 2	2-29								
PE21I_ADE03	EARLY E1 15 KD PROTEIN	HUMAN ADENOVIRUS TYPE 1	21-48								
PE21I_ADE07	EARLY E1 15 KD PROTEIN	HUMAN ADENOVIRUS TYPE 3	5-31	78-100							
PE33G_ADE03	EARLY E3 90 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 2	76-109								
PE33G_ADE05	EARLY E3 90 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 5	125-181								
PE33I_ADE03	EARLY E3 20.5 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 2	18-66								
PE3GL_ADE41	EARLY E3 17.7 KD GLYCOPROTEIN	MOUSE ADENOVIRUS TYPE 1	45-82								
PEAA_EBV	EARLY ANTIGEN PROTEIN R	EPSTEIN-BARR VIRUS (STRAIN B95-8)	307-341	420-493							
PEFT1_VARV	EARLY TRANSFACTOR 70 KD SUBUNIT	VARIOLA VIRUS	420-468								
PENV_AVIRE	ENV POLYPROTEIN	AVIAN RETICULOENDOTHELIOSIS VIRUS	6-33	426-474							
PENV_AVISN	ENV POLYPROTEIN	AVIAN SPLEEN NECROSIS VIRUS	195-452								
PENV_BAEVM	ENV POLYPROTEIN	BABOON ENDOGENOUS VIRUS (STRAIN M7)	17-44	544-603	611-695						
PENV_BIV06	ENV POLYPROTEIN	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 106)	17-44	544-603	611-695						
PENV_BIV27	ENV POLYPROTEIN	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127)	17-44	573-633	660-724						
PENV_BLVAF	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AUBERCAN ISOLATE FLK)	104-137								
PENV_BLVAU	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AUSTRALIAN ISOLATE)	104-137	668-712							
PENV_BLVAV	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AUBERCAN ISOLATE YOM)	104-137	668-712							
PENV_BLVB1	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (BELGIUM ISOLATE LB315)	111-137	668-712							
PENV_BLVB5	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (BELGIUM ISOLATE LB5)	104-137	668-696							
PENV_BLVJ1	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (JAPANESE ISOLATE BLV-1)	104-137	668-712							
PENV_CAEVC	ENV POLYPROTEIN	CAPRINE ARTHRITIS ENCEPHALITIS VIRUS (STRAIN CAE)	103-192								
PENV_EIAVI	ENV POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE P) 1-1)	668-712								
PENV_EIAVE	ENV POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE P) 1-2)	668-712								
PENV_EIAV3	ENV POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE P) 2-3)	668-696								
PENV_EIAV9	ENV POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE 1149)	668-712								
PENV_EIAVC	ENV POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE CL32)	668-712								
PENV_EIAVW	ENV POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (STRAIN WSU5)	668-712								
PENV_EIAVY	ENV POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (ISOLATE WYOMING)	668-711								
PENV_FENV1	ENV POLYPROTEIN	FELINE ENDOGENOUS VIRUS ECE1	13-60	517-544							
PENV_FIV6B	ENV POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE PETALUMA)	638-680	723-749							
PENV_FIV8D	ENV POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE SAN DIEGO)	638-680	726-747							
PENV_FIVT2	ENV POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE TM2)	648-679	721-748							
PENV_FLVCG	ENV POLYPROTEIN	FELINE LEUKEMIA PROVIRUS (CLONE CFE-4)	509-531								
PENV_FLVGL	ENV POLYPROTEIN	FELINE LEUKEMIA VIRUS (STRAIN AGLASGOW-1)	498-518								
PENV_FLVLB	ENV POLYPROTEIN	FELINE LEUKEMIA VIRUS (STRAIN LAMBDA-B1)	516-539								
PENV_FLVSA	ENV POLYPROTEIN	FELINE LEUKEMIA VIRUS (STRAIN SARMA)	487-516								
PENV_FOAMV	ENV POLYPROTEIN	HUMAN SPUMARETROVIRUS	14-41	118-153	166-191						
PENV_FSVGA	ENV POLYPROTEIN	FELINE SARCOMA VIRUS (STRAIN GARDNER-ARNSTEIN)	516-539								
PENV_FSVGB	ENV POLYPROTEIN	FELINE SARCOMA VIRUS (STRAIN GA)	490-519								
PENV_FSVSM	ENV POLYPROTEIN	FELINE SARCOMA VIRUS (STRAIN SM)	493-522								
PENV_GALV	ENV POLYPROTEIN	GIBBON APE LEUKEMIA VIRUS	176-201	523-564							
PENV_HTLIA	ENV POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (STRAIN ATK)	142-176								
PENV_HTLIC	ENV POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (CARIBBEAN ISOLATE)	142-176								
PENV_HTLIM	ENV POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (ISOLATE MT-2)	142-176								
PENV_HTLV2	ENV POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE II	136-170								
PENV_HVIAJ	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (ARV2/SF2 ISOLATE)	544-591	636-682	790-823						
PENV_HVIB1	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BH10 ISOLATE)	545-584	631-681	791-811						
PENV_HVIB8	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BH8 ISOLATE)	546-589	636-678	726-811						
PENV_HVIBN	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BRAIN ISOLATE)	267-294	336-365	562-590	638-679	787-815				
PENV_HVIBR	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BRU ISOLATE)	516-599	636-681	796-823						
PENV_HVICA	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (CDC-451 ISOLATE)	597-624	737-806	843-895	880-833					
PENV_HVIEL	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (ELI ISOLATE)	215-296	386-411	541-591	628-680					
PENV_HVIHB	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (HXB3 ISOLATE)	545-584	631-681	791-811						
PENV_HVIHS	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (HXB2 ISOLATE)	545-584	631-681	791-811						
PENV_HVIIS	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (IIIS ISOLATE)	536-577	634-685	643-694	802-829					
PENV_HVITA	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (IRCSF ISOLATE)	536-563	632-653	793-811						

PCGENE	107a178s4	All Viruses (no bacteriophages)									
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PENV_HV1KB	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (STRAIN KB-1-GP33)	274-301	555-596	637-677	776-824					
PENV_HV1MA	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MAL ISOLATE)	547-595	633-707	764-826						
PENV_HV1MF	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MFA ISOLATE)	543-592	629-681	788-816						
PENV_HV1MN	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MN ISOLATE)	543-590	567-595	632-684	791-819					
PENV_HV1NS	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NEW YORK-5 ISOLATE)	326-360								
PENV_HV1N5	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)	249-290	536-583	621-673	783-813					
PENV_HV1OY	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (OYI ISOLATE)	544-593	630-704	789-820						
PENV_HV1PV	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	545-594	631-683	791-818						
PENV_HV1RH	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (RF/HAT ISOLATE)	280-307	551-578	554-602	640-692	800-833				
PENV_HV1SI	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SF162 ISOLATE)	533-563	536-585	622-674	782-809					
PENV_HV1S3	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SF33 ISOLATE)	541-589	627-679	787-815						
PENV_HV1SC	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SC ISOLATE)	338-365	543-593	631-683						
PENV_HV1W1	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (WMJ1 ISOLATE)	338-365	545-593	631-681	791-818					
PENV_HV1W2	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (WMJ2 ISOLATE)	334-361	536-584	622-674	782-809					
PENV_HV1Z2	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z2/CDC-Z34 ISOLATE)	335-390	542-591	628-680	790-829					
PENV_HV1Z3	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE 3 ISOLATE)	251-302								
PENV_HV1Z6	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE 6 ISOLATE)	336-387	545-593	630-682	787-822					
PENV_HV1Z8	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z-84 ISOLATE)	266-307	573-601	634-678	787-828					
PENV_HV1ZH	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE IZ3211 ISOLATE)	545-594	627-666	791-823						
PENV_HV2BE	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE BEN)	61-88	532-591	621-648	653-697					
PENV_HV2CA	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE CAM2)	334-393	623-650	655-699						
PENV_HV2D1	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D194)	61-88	523-550	535-582	644-688					
PENV_HV2GI	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE GHANA-1)	60-87	524-551	536-583	613-640	645-693				
PENV_HV2NZ	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NIH-Z)	61-88	524-551	536-583	613-640	662-689				
PENV_HV2RO	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD)	58-85	533-592	622-698						
PENV_HV2S3	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST/24 IC#2)	442-476	537-554	559-586	648-692					
PENV_HV2SB	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE SBL/ISY)	557-584	614-693							
PENV_HV2ST	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST)	442-476	537-554	559-586	648-692					
PENV_MCFF	ENV POLYPROTEIN	MINK CELL FOCUS-FORMING MURINE LEUKEMIA VIRUS	473-512								
PENV_MCFFJ	ENV POLYPROTEIN	MINK CELL FOCUS-FORMING MURINE LEUKEMIA VIRUS (ISOLATE CF-3)	488-515								
PENV_MLVAV	ENV POLYPROTEIN	AKV MURINE LEUKEMIA VIRUS	517-544								
PENV_MLVCB	ENV POLYPROTEIN	CAS-BR-E MURINE LEUKEMIA VIRUS	510-539								
PENV_MLVF5	ENV POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE 57)	523-553								
PENV_MLVFF	ENV POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE FB29)	523-553								
PENV_MLVFP	ENV POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE FVC-211)	523-553								
PENV_MLVHO	ENV POLYPROTEIN	HOMULV MURINE LEUKEMIA VIRUS	510-540								
PENV_MLVKI	ENV POLYPROTEIN	KILSTEN MURINE LEUKEMIA VIRUS	40-81								
PENV_MLVMO	ENV POLYPROTEIN	MOLONEY MURINE LEUKEMIA VIRUS	503-543								
PENV_MLVRD	ENV POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS	497-538								
PENV_MLVRK	ENV POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS (STRAIN KAPLAN)	497-538								
PENV_MMTVB	ENV POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN BR6)	458-485	562-589							
PENV_MMTVG	ENV POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN GR)	458-485	562-589							
PENV_MPMV	ENV POLYPROTEIN	SIMIAN MASON-PFIZER VIRUS	422-470								
PENV_MSVFB	ENV POLYPROTEIN	FBJ MURINE OSTEOSARCOMA VIRUS	37-84								
PENV_ONVVS	ENV POLYPROTEIN	OVINE LENTIVIRUS (STRAIN SA-ONVV)	42-69	196-223	780-807						
PENV_RMCFV	ENV POLYPROTEIN	RAUSCHER MINK CELL FOCUS-INDUCING VIRUS	487-517								
PENV_SFVI	ENV POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 1)	14-41	866-901							
PENV_SFV3L	ENV POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 3 / STRAIN LK3)	18-45	319-337	673-700	863-898					
PENV_SIVAI	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM155 ISOLATE)	269-310	561-588	592-619	652-679	697-724				
PENV_SIVAG	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM3 ISOLATE)	270-301	566-593	597-624	658-685	703-730				
PENV_SIVAI	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM / CLONE GRI-1)	257-291	336-372	548-603	634-708					
PENV_SIVAT	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	3-30	268-298	590-617	651-678					
PENV_SIVCZ	ENV POLYPROTEIN	CHIMPANZEE IMMUNODEFICIENCY VIRUS	160-187	253-289	536-566	626-654					
PENV_SIVGB	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE GB1)	8-35	158-185	589-650	784-816					
PENV_SIVMI	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (MM142-83 ISOLATE)	120-150	550-609	671-715						
PENV_SIVMQ	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (MM251 ISOLATE)	156-215	277-289							
PENV_SIVMK	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (K6W ISOLATE)	553-600								

TECGENE	10121314	All Viruses (no bacteriophages)	AREA1	AREA1	AREA3	AREA4	AREA5	AREA1	AREA2	AREA3	AREA3
FILE NAME	PROTEIN	VIRUS	540-668								
PENV_SIVM1	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (K78 ISOLATE)	281-368	553-612	642-669	691-718					
PENV_SIVM4	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PBJ4C4B14 ISOLATE)	284-313	554-595	646-722						
PENV_SIVSP	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PBJ/BC1) ISOLATE)	409-443								
PENV_SIVSP	ENV POLYPROTEIN	SQUIRREL MONKEY RETROVIRUS (SMRV-1)	409-471								
PENV_SMRV1	ENV POLYPROTEIN	SIMIAN RETROVIRUS SRV-1	23-42	553-600							
PENV_SIVI	ENV POLYPROTEIN	VISNA LENTIVIRUS (STRAIN 1514)	23-42	780-807							
PENV_VLV	ENV POLYPROTEIN	VISNA LENTIVIRUS (STRAIN 1514 / CLONE LV1.1K51)	23-42	782-809							
PENV_VLV1	ENV POLYPROTEIN	VISNA LENTIVIRUS (STRAIN 1514 / CLONE LV1.1K52)	190-226								
PENV_FOWPI	ENV POLYPROTEIN	FOWLPOX VIRUS (STRAIN FP-1)	106-140	469-496	550-587						
PETF1_FOWPI	EARLY TRANSCRIPTION FACTOR 76 KD SUBUNIT	FOWLPOX VIRUS (STRAIN KASZA)	107-141	470-497							
PETF1_SPVKA	EARLY TRANSCRIPTION FACTOR 76 KD SUBUNIT	VACCINIA VIRUS (STRAIN COPENHAGEN)	107-141	470-497							
PETF1_VACCC	EARLY TRANSCRIPTION FACTOR 76 KD SUBUNIT	VACCINIA VIRUS (STRAIN WR)	107-141	470-497							
PETF1_VACCV	EARLY TRANSCRIPTION FACTOR 82	VACCINIA VIRUS (STRAIN COPENHAGEN)	66-97	174-210	302-333						
PETF1_VACCC	EARLY TRANSCRIPTION FACTOR 82	VARIOLA VIRUS	66-97	174-210	302-333						
PETF1_VAVV	EARLY TRANSCRIPTION FACTOR 82	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	109-139								
PEXON_VZVD	ALKALINE EXONUCLEASE	HUMAN ADENOVIRUS TYPE 40	176-237								
PFIB2_ADE40	41-KD FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 41	178-216								
PFIB2_ADE41	41-KD FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 2	300-335								
PFIB_ADE2	FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 40	324-351	446-473							
PFIB_ADE40	FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 41	358-366	461-488							
PFIB_ADE41	FIBER PROTEIN	BOVINE ADENOVIRUS TYPE 3	118-145	184-191							
PFIB_ADE3	FIBER PROTEIN	MOUSE ADENOVIRUS TYPE 1	175-185	335-333							
PFIB_ADEM1	FIBER PROTEIN	FBR MURINE OSTEOSARCOMA VIRUS	138-169								
PFOS_ASVFR	V-FOS/FOX TRANSFORMING PROTEIN	AVIAN RETROVIRUS MC29	116-147								
PFOS_AVBMC	P35:V-FOS TRANSFORMING PROTEIN	FBJ MURINE OSTEOSARCOMA VIRUS	163-191								
PFOS_MSVFB	P35:V-FOS TRANSFORMING PROTEIN	AVIAN SPLEEN NECROSIS VIRUS	378-387								
PGAG_AVSN	GAG POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (ISOLATE WYOMING)	144-171								
PGAG_ELAVV	GAG POLYPROTEIN	HUMAN SPUMARETROVIRUS	431-448								
PGAG_FOAMV	GAG POLYPROTEIN	GIBBON APE LEUKEMIA VIRUS	386-443	447-474							
PGAG_GALV	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ARV2/SF2 ISOLATE)	91-118								
PGAG_HV1A2	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ITI ISOLATE)	91-118								
PGAG_HV1J3	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JAN ISOLATE)	87-118								
PGAG_HV1MN	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE BEN)	88-115								
PGAG_HV1BE	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE D194)	88-115								
PGAG_HV2D1	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE NIH-Z)	88-115								
PGAG_HV2N2	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE ST)	88-115								
PGAG_HV2ST	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2	358-387								
PGAG_IPMA	RETROVIRUS-RELATED GAG POLYPROTEIN	MOUSE INTRACISTERNAL A-PARTICLE	33-60	69-103	232-259						
PGAG_IPMA	RETROVIRUS-RELATED GAG POLYPROTEIN	MOUSE INTRACISTERNAL A-PARTICLE	84-130								
PGAG_MMTVB	RETROVIRUS-RELATED GAG POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN BAS)	84-131	136-187							
PGAG_MMTVC	GAG POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN CHI)	84-116								
PGAG_MMTVG	GAG POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN GR)	84-131	136-183							
PGAG_MPMV	GAG POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (MPMV)	222-260								
PGAG_SCVLA	MAJOR COAT PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM/CLONE GRU-1)	497-511	624-651							
PGAG_SIVAI	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (KAW ISOLATE)	84-115								
PGAG_SIVMK	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (STM ISOLATE)	88-115								
PGAG_SIVMS	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PBJ/SMM ISOLATE)	88-115								
PGAG_SIVS4	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PBJ/BC1) ISOLATE)	88-115								
PGAG_SIVSP	GAG POLYPROTEIN	SIMIAN SARCOMA VIRUS	397-441								
PGAG_SMRAV	GAG POLYPROTEIN	SIMIAN RETROVIRUS SRV-1	223-261								
PGAG_SRV1	GAG POLYPROTEIN	SIMIAN RETROVIRUS TYPE 1 (STRAIN ADAP)	116-211	221-248							
PHEL1_HSVEB	PROBABLE HELICASE	HERPESVIRUS SAIMIRI (STRAIN 11)	418-449								
PHEL1_HSVSA	PROBABLE HELICASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	490-517	701-728							
PHEL1_VZVD	PROBABLE HELICASE	VARICELLA-ZOSTER VIRUS (STRAIN 11)	268-293								
PHEMA_CVBF	HEMAGGLUTININ-ESTERASE PRECURSOR	BOVINE CORONAVIRUS (STRAIN LY-138)	288-343								
PHEMA_CVBLY	HEMAGGLUTININ-ESTERASE PRECURSOR	BOVINE CORONAVIRUS (STRAIN LY-138)	288-343								
PHEMA_CVBN	HEMAGGLUTININ-ESTERASE PRECURSOR	BOVINE CORONAVIRUS (STRAIN NEB8)	288-343								

ACCESSION	107217bt4	All Viruses (no bacteriophages)								
FILE NAME	PROTEIN	VIRUS	AREA1	AREA1	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6
PHEMA_CVHQ	HEMAGGLUTININ-ESTERASE PRECURSOR	BOVINE CORONAVIRUS (STRAIN QUEBEC)	206-343							
PHEMA_CVHOC	HEMAGGLUTININ-ESTERASE PRECURSOR	HUMAN CORONAVIRUS (STRAIN OC43)	208-343							
PHEMA_IAAIC	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/ARCH/1/64)	307-453							
PHEMA_IABAN	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/BANGKOK/1/79)	24-51	131-457						
PHEMA_IABUD	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/BUDGERIGAR/HOKKAIDO/77/7)	301-451							
PHEMA_IACAO	HEMAGGLUTININ	INFLUENZA A VIRUS (STRAIN A/CASELA/ONGOLIA/2)	9-36							
PHEMA_IACKA	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/CHICKEN/ALABAMA/75)	301-451							
PHEMA_IACKO	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/CHICKEN/GERMANY/N/49)	31-58	307-441	494-528					
PHEMA_IACKP	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/CHICKEN/PENNSYLVANIA/1/83)	396-426							
PHEMA_IACKQ	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/CHICKEN/PENNSYLVANIA/1/83(H5N1))	396-426							
PHEMA_IACKV	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/CHICKEN/VICTORIA/1/85)	119-146	304-441						
PHEMA_IADA1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERT/A/18/76)	301-451							
PHEMA_IADA2	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERT/A/60/76)	423-453	499-543						
PHEMA_IADA3	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERT/A/76/76)	301-453							
PHEMA_IADA4	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERTA/35/76)	29-56	418-478						
PHEMA_IADC2	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/CZECHOSLOVAK/1/56)	301-451							
PHEMA_IADE1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/ENGLAND/1/56)	21-55	402-453	506-533					
PHEMA_IADH1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HONG KONG/77)	171-417							
PHEMA_IADH8	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOK/8/80)	171-417							
PHEMA_IADH9	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOK/9/80)	171-417							
PHEMA_IADH10	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOK/10/80)	171-417							
PHEMA_IADH11	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOK/11/80)	171-417							
PHEMA_IADH12	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOK/12/80)	171-417							
PHEMA_IADH13	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOK/13/81)	171-417							
PHEMA_IADH14	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOK/14/82)	171-417							
PHEMA_IADH15	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOK/15/82)	171-417							
PHEMA_IADH16	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOK/16/82)	171-417							
PHEMA_IADH17	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOK/17/82)	171-417							
PHEMA_IADH8	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/MEMPHIS/546/76)	31-58	415-443						
PHEMA_IADM3	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/MEMPHIS/918/76)	31-58	387-453						
PHEMA_IADM4	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/MANITOBA/1/53)	31-58	387-453						
PHEMA_IADN6	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/NEW YORK/1/78)	31-55							
PHEMA_IADN7	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/NEW ZEALAND/1/76)	387-451							
PHEMA_IADN2	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/UKRAINE/1/63)	21-55							
PHEMA_IADU1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/UKRAINE/1/63)	387-453							
PHEMA_IAEN6	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/ENGLAND/1/66)	24-51							
PHEMA_IAEN7	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/ENGLAND/1/71)	40-67	387-453						
PHEMA_IAFPA	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK/34)	151-321	384-442						
PHEMA_IAGR2	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/GREY TEAL/AUSTRALIA/2/79)	301-451							
PHEMA_IAGU5	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/GUILLAMAS/LANDING/77)	505-533							
PHEMA_IAGU8	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/GUILLAS/TRAUKHAN/23/84)	504-531							
PHEMA_IAHA1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/ALGIERS/72)	386-453							
PHEMA_IAHJA	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/HAJIB/1/85)	29-56							
PHEMA_IAHK3	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/CAMBRIDGE/1/63)	29-56	194-221	388-457					
PHEMA_IAHK7	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/CAMBRIDGE/1/77)	29-56	194-221	388-457					
PHEMA_IAHK8	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/DETROIT/1/64)	29-56	194-221	388-457					
PHEMA_IAHK9	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/DETROIT/1/64)	29-56	194-221	388-457					
PHEMA_IAHO	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/FONTAINEBLEAU/76)	386-453							
PHEMA_IAHS1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/KENTUCKY/1/86)	386-453							
PHEMA_IAHS7	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/KENTUCKY/1/87)	386-453							
PHEMA_IAHL8	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/LEXINGTON/1/86)	29-56	194-221	388-457					
PHEMA_IAHL9	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/LONDON/1/61(H7))	29-56	194-221	388-457					
PHEMA_IAHM4	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/MIAMI/63)	386-453							
PHEMA_IAHN6	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/NEW MARKET/1/76)	386-453							
PHEMA_IAHN9	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/NEW MARKET/1/77)	29-56	194-221	388-457					
PHEMA_IAHP1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/PRAGUE/1/56)	29-56	194-221	388-457					
PHEMA_IAHR2	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/RICHMOND/1/73)	386-453							
PHEMA_IAHS4	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/SANTIAGO/1/63)	386-453							
PHEMA_IAHS5	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/SUFFOLK/1/79)	29-56	194-221	388-457					
PHEMA_IAHS7	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/TOKYO/1/67)	29-56	194-221	388-457					
PHEMA_IAHS9	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN JAPAN/305/57(H2N2))	29-56	194-221	388-457					

FCGENE	All Viruses (no bacteriophage)	AREA1	AREA2	AREA3	AREA4	AREA1	AREA2	AREA1	AREA2
FILENAME	VIRUS								
FHEMA_UAHTE	INFLUENZA A VIRUS (STRAIN A/EQUINE/TENNESSEE/53/56)	104-413							
FHEMA_UAHTO	INFLUENZA A VIRUS (STRAIN A/EQUINE/TOKYO/1/)	108-455							
FHEMA_UAHUR	INFLUENZA A VIRUS (STRAIN A/EQUINE/URUGUAY/1/63)	104-432							
FHEMA_UAJAP	INFLUENZA A VIRUS (STRAIN A/JAPAN/305/57)	104-233							
FHEMA_UAJE	INFLUENZA A VIRUS (STRAIN A/JEV/1/57)	28-56	423-478						
FHEMA_UALEN	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/)	28-56	423-478						
FHEMA_UAMAA	INFLUENZA A VIRUS (STRAIN A/MALLARD/ASTRAKHAN/263/82)	108-450							
FHEMA_UAMAB	INFLUENZA A VIRUS (STRAIN A/MALLARD/ASTRAKHAN/33/82)	383-435							
FHEMA_UAMAO	INFLUENZA A VIRUS (STRAIN A/MEMPHIS/1/71)	387-433	387-433						
FHEMA_UAME1	INFLUENZA A VIRUS (STRAIN A/MEMPHIS/102/72)	40-87	387-433						
FHEMA_UAME2	INFLUENZA A VIRUS (STRAIN A/MEMPHIS/6/86)	28-51	331-437						
FHEMA_UAMSK	INFLUENZA A VIRUS (STRAIN A/MINK/SWEDEN/84)	31-58	382-441						
FHEMA_UAN2	INFLUENZA A VIRUS (STRAIN A/NT/60/68)	387-433							
FHEMA_UANT6	INFLUENZA A VIRUS (STRAIN A/PILOT WHALE/ALASKA/77/84)	505-552							
FHEMA_UAPIL	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	28-56	423-478						
FHEMA_UAPUE	INFLUENZA A VIRUS (STRAIN A/QUAIL/)	28-51							
FHEMA_UAQU7	INFLUENZA A VIRUS (STRAIN A/RUDDY TURNSTONE/NEW JERSEY/47/85)	381-431							
FHEMA_UARUD	INFLUENZA A VIRUS (STRAIN A/SEAL/MASSACHUSETTS/1/80)	381-431							
FHEMA_UASE5	INFLUENZA A VIRUS (STRAIN A/SHEARWATER/AUSTRALIA/72)	28-56	146-181	506-547					
FHEMA_UASH3	INFLUENZA A VIRUS (STRAIN A/STARLING/VICTORIA/513/85)	116-146	388-441						
FHEMA_UASTA	INFLUENZA A VIRUS (STRAIN A/TAIWAN/1/86)	28-56							
FHEMA_UATAI	INFLUENZA A VIRUS (STRAIN A/TURKEY/ENGLAND/1378/63)	415-445							
FHEMA_UATR1	INFLUENZA A VIRUS (STRAIN A/TURKEY/MINNESOTA/833/80)	381-431							
FHEMA_UATR2	INFLUENZA A VIRUS (STRAIN A/TURKEY/ONTARIO/7732/66)	387-434							
FHEMA_UATR3	INFLUENZA A VIRUS (STRAIN A/TURKEY/ONTARIO/6118/68)	428-454	493-539						
FHEMA_UATR4	INFLUENZA A VIRUS (STRAIN A/TURKEY/OREGON/71)	32-62	194-231	331-422					
FHEMA_UATR5	INFLUENZA A VIRUS (STRAIN A/TURKEY/WISCONSIN/66)	4119-449	500-536						
FHEMA_UATRW	INFLUENZA A VIRUS (STRAIN A/TURKEY/AUSTRALIA/GOBLER)	31-55							
FHEMA_UATRA	INFLUENZA A VIRUS (STRAIN A/UDORN/307/72)	40-87	387-433						
FHEMA_UAUDO	INFLUENZA A VIRUS (STRAIN A/UDORN/72)	28-56	423-478						
FHEMA_UAUS3	INFLUENZA A VIRUS (STRAIN A/USSR/90/77)	41-68	388-434						
FHEMA_UAVI1	INFLUENZA A VIRUS (STRAIN A/VICTORIA/3/75)	434-457							
FHEMA_UAVIL	INFLUENZA A VIRUS (STRAIN A/WILSON-SMITH/33)	28-56							
FHEMA_UAZA	INFLUENZA A VIRUS (STRAIN A/ANHUI/1/)	40-87	387-433						
FHEMA_UAZCO	INFLUENZA A VIRUS (STRAIN A/SWINE/COLORADO/77)	111-437							
FHEMA_UAZH3	INFLUENZA A VIRUS (STRAIN A/SWINE/HONG KONG/81/78)	111-437							
FHEMA_UAZH5	INFLUENZA A VIRUS (STRAIN A/SWINE/HONG KONG/1362/82)	111-437							
FHEMA_UAZIN	INFLUENZA A VIRUS (STRAIN A/SWINE/INDIANA/1726/88)	418-478	506-547						
FHEMA_UAZN	INFLUENZA A VIRUS (STRAIN A/SWINE/NEW JERSEY/11/76)	418-478	506-547						
FHEMA_UAZNJ	INFLUENZA A VIRUS (STRAIN A/SWINE/NEW JERSEY/11/76)	387-433							
FHEMA_UAZUK	INFLUENZA A VIRUS (STRAIN A/SWINE/UK/1/84)	4408-431	439-483						
FHEMA_UBBEE	INFLUENZA B VIRUS (STRAIN B/BEIJING/1/87)	4408-431	439-483						
FHEMA_UBBJO	INFLUENZA B VIRUS (STRAIN B/BONN/43)	1908-421	439-477						
FHEMA_UBEN	INFLUENZA B VIRUS (STRAIN B/ENGLAND/222/85)	398-439	437-481						
FHEMA_UBHK	INFLUENZA B VIRUS (STRAIN B/HONG KONG/8/73)	391-418	429-473						
FHEMA_UBLE	INFLUENZA B VIRUS (STRAIN B/LEE/40)	399-430	438-482						
FHEMA_UBLI	INFLUENZA B VIRUS (STRAIN B/LIENCHIANG/39)	389-426	438-472						
FHEMA_UBMAD	INFLUENZA B VIRUS (STRAIN B/MALAYSIA/506)	393-434	433-476						
FHEMA_UBME	INFLUENZA B VIRUS (STRAIN B/MEMPHIS/3/60)	398-439	437-481						
FHEMA_UBOA	INFLUENZA B VIRUS (STRAIN B/OREGON/5/60)	398-439	437-481						
FHEMA_UBSI	INFLUENZA B VIRUS (STRAIN B/SINGAPORE/222/79)	398-425	437-481						
FHEMA_UBUS	INFLUENZA B VIRUS (STRAIN B/USSR/100/83)	391-422	438-474						
FHEMA_UBVI	INFLUENZA B VIRUS (STRAIN B/VICTORIA/2/87)	393-434	433-476						
FHEMA_UBVI1	INFLUENZA B VIRUS (STRAIN B/VICTORIA/2/87)	4408-431	439-483						
FHEMA_UBVI2	INFLUENZA B VIRUS (STRAIN B/VICTORIA/504/88)	4408-431							
FHEMA_UCCA	INFLUENZA C VIRUS (STRAIN CALIFORNIA/78)	403-539							
FHEMA_UCEN	INFLUENZA C VIRUS (STRAIN ENGLAND/892/81)	403-539							
FHEMA_UCGL	INFLUENZA C VIRUS (STRAIN GREAT LAKES/1167/54)	4403-538							
FHEMA_UCKY	INFLUENZA C VIRUS (STRAIN KANAGAWA/1/76)	403-539							
FHEMA_UCN	INFLUENZA C VIRUS (STRAIN JOHANNESBURG/1/66)	4406-575							

ACCESSION	ID/AC/DR#	All Viruses (no bacteriophages)	AREA 1	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
P14_HAMIE	P PROTEIN	VIRUS	481-539								
PHEMA_INCKY	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN CALIFORNIA/78)	481-539								
PHEMA_INCMI	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN MISSISSIPPI/80)	481-539								
PHEMA_INCNA	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN NAGASAKI)	481-539								
PHEMA_INCP1	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/PIG/BEIJING/10/81)	481-539								
PHEMA_INCP2	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/PIG/BEIJING/115/81)	481-539								
PHEMA_INCP3	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/PIG/BEIJING/439/82)	481-539								
PHEMA_INCTA	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN TAYLOR/1233/47)	481-539								
PHEMA_INCYA	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/YAMAGATA/10/81)	481-539								
PHEMA_NDVA	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA-VICTORIA/33)	64-91								
PHEMA_NDVB	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C/45)	64-91								
PHEMA_NDVD	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN D26/76)	64-91								
PHEMA_NDVH	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN HITCHNER/47)	64-91								
PHEMA_NDVI	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN ITALIEN/47)	64-91								
PHEMA_NDVM	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN MIYADERA/51)	64-91								
PHEMA_NDVQ	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN QUEENSLAND/66)	64-91								
PHEMA_NDVT6	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN TEXAS G-B/48)	64-91								
PHEMA_NDVU	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN ULSTER/67)	64-91								
PHEMA_PMDV	HEMAGGLUTININ-NEURAMINIDASE	PHOCINE DISTEMPER VIRUS	59-66	46-73							
PHEMA_PIHNV	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN WASHINGTON/1935)	79-110	166-193							
PHEMA_PIH	HEMAGGLUTININ-NEURAMINIDASE	BOVINE PARAINFLUENZA 3 VIRUS	64-91								
PHEMA_PIH4	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	27-41								
PHEMA_PIHA	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN AUS/71/4854/74)	27-41								
PHEMA_PIHT	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN TEX/345/80)	27-76								
PHEMA_PIHTU	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN TEX/905/82)	27-76								
PHEMA_PIHV	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN TEX/1267/83)	27-41								
PHEMA_PIHW	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN WASH/641/79)	27-41								
PHEMA_PIHX	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN WASH/5117/79)	27-41								
PHEMA_RACV1	HEMAGGLUTININ PRECURSOR	RACCOON POXVIRUS	166-214	256-283							
PHEMA_SEND3	HEMAGGLUTININ-NEURAMINIDASE	SENDAI VIRUS (STRAIN Z / HOST MUTANT 5)	79-106								
PHEMA_SENDF	HEMAGGLUTININ-NEURAMINIDASE	SENDAI VIRUS (STRAIN FUSHIMI)	79-106								
PHEMA_SENDH	HEMAGGLUTININ-NEURAMINIDASE	SENDAI VIRUS (STRAIN HARRIS)	79-106								
PHEMA_SENDZ	HEMAGGLUTININ-NEURAMINIDASE	SENDAI VIRUS (STRAIN HVJ)	79-106								
PHEMA_SENDZ	HEMAGGLUTININ-NEURAMINIDASE	SENDAI VIRUS (STRAIN Z)	79-106								
PHEMA_SV41	HEMAGGLUTININ-NEURAMINIDASE	SIMIAN VIRUS 41	22-52	394-421							
PHEMA_VACCC	HEMAGGLUTININ PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	119-148	175-203	216-243						
PHEMA_VACCI	HEMAGGLUTININ PRECURSOR	VACCINIA VIRUS (STRAIN IHD-J)	109-148	175-203	216-243						
PHEMA_VACCT	HEMAGGLUTININ PRECURSOR	VACCINIA VIRUS (STRAIN TIAN TAN)	119-148	175-203	216-243						
PHEMA_VACCV	HEMAGGLUTININ PRECURSOR	VACCINIA VIRUS (STRAIN WR)	108-148	175-203	215-242						
PHEMA_VARV	HEMAGGLUTININ PRECURSOR	VARIOLA VIRUS	111-148	177-211	214-244						
PHEU3_ADE03	HEXON-ASSOCIATED PROTEIN	HUMAN ADENOVIRUS TYPE 3	100-134								
PHEX9_ADE05	HEXON-ASSOCIATED PROTEIN	HUMAN ADENOVIRUS TYPE 5	100-134								
PHEX9_ADE07	HEXON-ASSOCIATED PROTEIN	HUMAN ADENOVIRUS TYPES 3 and 7	97-131								
PHEX_ADE01	HEXON PROTEIN	HUMAN ADENOVIRUS TYPE 2	146-193	359-386	433-460						
PHEX_ADE05	HEXON PROTEIN	HUMAN ADENOVIRUS TYPE 5	348-395								
PHEX_ADE40	HEXON PROTEIN	HUMAN ADENOVIRUS TYPE 40	396-433								
PHEX_ADE41	HEXON PROTEIN	BOVINE ADENOVIRUS TYPE 3	305-338								
PHEU_COWPX	IDENTIFICATION-INDUCING 31 KD PROTEIN	COWPOX VIRUS	28-55								
PHEU_COWPX	HOST RANGE PROTEIN	COWPOX VIRUS	462-489								
P11N_ASFB1	LATE PROTEIN 11 KL	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	12-43								
P22K_ASFB1	LATE PROTEIN 22 KD	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	113-147								
P30MP_CAMV4	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM)	17-44								
P30MP_CAMV6	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D4)	17-44								
P30MP_CAMVP	INCLUSION BODY MATRIX PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN PV147)	383-410								
P30MP_CEXV	INCLUSION BODY MATRIX PROTEIN	CARNATION ETCHED RING VIRUS	6-33								
P30MP_FMVD	INCLUSION BODY MATRIX PROTEIN	FIGWORT MOSAIC VIRUS (STRAIN DXS)	372-407								
P30MP_SCSMV	INCLUSION BODY MATRIX PROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	3-48	331-358							
P3C11_HCMVA	PROB PROC & TRANSPORT PROT 3.1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	294-324								

PCGENE	1101170x4	All Viruses (no bacteriophage)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
TEMPNAME	E PROTEIN	VIRUS	10-45	402-532							
PIC18_HSV1A	PROBABLE PROT A TRANSPORT PRO	HERPESVIRUS SAIMIRI (STRAIN 11)	401-491								
PIC18_MSV1A	PROB PROT A TRANSPORT PRO	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	401-491								
PIE3_HSV11	TRANSCRIPTIONAL REGULATOR (E3)	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	240-335								
PIE3_HSV11	TRANSCRIPTIONAL REGULATOR (E3)	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	40-87								
PIEA1_HSV11	IMMEDIATE-EARLY PROTEIN IE4	HERPESVIRUS SAIMIRI (STRAIN 11)	48-75								
PIEA1_HSV1A	IMMEDIATE-EARLY PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	12-49								
PIE5_HCMVA	HYPOTHETICAL PROTEIN IE15	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	24-161								
PIE15_HCMVA	HYPOTHETICAL PROTEIN IE1.1)	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	11-42								
PIE15_HCMVA	HYPOTHETICAL PROTEIN IE1.1)	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	106-150								
PKTE5_FSVGA	TYROSINE KINASE TRANSF PROTEIN TES	FELINE SARCOMA VIRUS (STRAIN GARDNER-ARNSTEIN)	210-252								
PKTE5_FSVGA	TYROSINE KINASE TRANSF PROTEIN TGA	FELINE SARCOMA VIRUS (STRAIN GARDNER-RASHEED)	223-265								
PKTE5_FSVMD	FMS TYROSINE KINASE TRANSF PROTEIN	FELINE SARCOMA VIRUS (STRAIN MCDONOUGH)	153-243	349-387							
PKTF5_FUSBV	TYROSINE KINASE TRANSF PROTEIN FPS	FUJINAMI SARCOMA VIRUS	41-86								
PKTH_AMEPV	THYMIDINE KINASE	AMSACTA MOOREI ENTOMOPOXVIRUS	41-68								
PKTH_CAPVK	THYMIDINE KINASE	CAPRIPOXVIRUS (STRAIN KS-1)	240-286								
PKTH_HSV1A	THYMIDINE KINASE	HERPESVIRUS SAIMIRI (STRAIN 11)	324-361								
PKTH_LCVT	THYMIDINE KINASE	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN TISSURE VACC)	401-518								
PKTI5_MSV1	GENE 71 PROTEIN KINASE	ACTALUID HERPESVIRUS 1	181-168								
PKTI5_VACCC	30 KD PROTEIN KINASE HOMOLOG	VACCINIA VIRUS (STRAIN COPENHAGEN)	141-168								
PKTI5_VACCC	30 KD PROTEIN KINASE HOMOLOG	VACCINIA VIRUS (STRAIN WR)	147-174								
PKTI5_VACCC	POSSIBLE PROTEIN KINASE B13	VACCINIA VIRUS (STRAIN COPENHAGEN)	147-174								
PKTI5_VACCV	POSSIBLE PROTEIN KINASE B13	VACCINIA VIRUS (STRAIN WR)	47-74								
PKTI_VACCC	POSSIBLE PROTEIN KINASE F10	VACCINIA VIRUS (STRAIN COPENHAGEN)	47-74								
PKTI_VACV	POSSIBLE PROTEIN KINASE F10	VARIOLA VIRUS	111-138								
PKTO5_AVISU	ROS TYROSINE KINASE TRANSF PROTEIN	AVIAN SARCOMA VIRUS (STRAIN URJ)	12-49								
PKTV5_AVISU	TYROSINE KINASE TRANSF PROTEIN KYK	AVIAN RETROVIRUS RPL30	206-233								
PKTV5_AVISY	TYROSINE KINASE TRANSF PROTEIN YES	AVIAN SARCOMA VIRUS (STRAIN Y73)	199-233								
PL100_ADE05	LATE 100 KD PROTEIN	HUMAN ADENOVIRUS TYPE 5	388-413								
PL100_ADE40	LATE 100 KD PROTEIN	HUMAN ADENOVIRUS TYPE 1	186-231								
PL100_ADE40	LATE 100 KD PROTEIN	HUMAN ADENOVIRUS TYPE 40	206-233								
PL100_ADE41	LATE 100 KD PROTEIN	HUMAN ADENOVIRUS TYPE 41	148-175								
PLMP1_EBV	LATENT MEMBRANE PROTEIN 1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	148-175								
PLMP1_EBVC	LATENT MEMBRANE PROTEIN 1	EPSTEIN-BARR VIRUS (STRAIN CAO)	148-175								
PLMP1_EBVK	LATENT MEMBRANE PROTEIN 1	EPSTEIN-BARR VIRUS (STRAIN RAJI)	148-175								
PLMP1_EBVA	LATENT MEMBRANE PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	194-221								
PLMP1_EBV	GENE TERMINAL PROTEIN	EPSTEIN-BARR VIRUS (STRAIN RAJI)	144-156	288-316	407-324	622-436					
PMCE_BPVLA	MRNA CAPPING ENZYME, LARGE SUBUNI	SHOPE FIBROMA VIRUS (STRAIN KASZA)	115-112	301-318	430-437						
PMCE_VACCC	MRNA CAPPING ENZYME, LARGE SUBUNI	VACCINIA VIRUS (STRAIN COPENHAGEN)	115-112	291-318	430-437						
PMCE1_VACCV	MRNA CAPPING ENZYME, LARGE SUBUNI	VACCINIA VIRUS (STRAIN WR)	115-112	291-318	430-437						
PMCE1_VARV	MRNA CAPPING ENZYME, LARGE SUBUNI	VARIOLA VIRUS	276-113								
PMCE_ASFBY	MRNA CAPPING ENZYME	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	176-197								
PMOVP_CGMVS	MOVEMENT PROTEIN	CUCUMBER GREEN MOTTLE MOSAIC VIRUS (WATERMELON STRAIN W)	176-197								
PMOVP_CGMVW	MOVEMENT PROTEIN	CUCUMBER GREEN MOTTLE MOSAIC VIRUS (WATERMELON STRAIN SH)	176-197								
PMOVP_ODV	MOVEMENT PROTEIN	ODONTOGLOSSUM RINGSPOT VIRUS	55-90								
PMOVP_TOMVA	MOVEMENT PROTEIN	TOMATO MOSAIC VIRUS (STRAIN L1A)	60-90								
PMOVP_TOMVL	MOVEMENT PROTEIN	TOMATO MOSAIC VIRUS (STRAIN L11)	60-90								
PMTC1_CHVN1	MODIFICATION METHYLASE CVSI	CHLORELLA VIRUS NC-1A	143-170	319-336							
PMTC1_CHVP1	MODIFICATION METHYLASE CVMII	PARAMECIUM BURSARIA CHLORELLA VIRUS 1	4-31	138-172							
PMTE_AVMJ3	MTC TRANSFORMING PROTEIN	AVIAN MYELOCYTOMATOSIS VIRUS CMII	213-364	375-401							
PMTE_AVMJC	MTC TRANSFORMING PROTEIN	AVIAN MYELOCYTOMATOSIS VIRUS MC29	213-367	378-403							
PMTE_AVMJD	MTC TRANSFORMING PROTEIN	AVIAN MYELOCYTOMATOSIS VIRUS HB1	213-367	378-403							
PMTE_AVMJE	MTC TRANSFORMING PROTEIN	AVIAN RETROVIRUS MH2E21	219-366	377-404							
PMTE_AVMJK	MTC TRANSFORMING PROTEIN	AVIAN RETROVIRUS OK10	227-367	378-397							
PMTE_AVMJR	MTC TRANSFORMING PROTEIN	FELINE LEUKEMIA VIRUS	193-420								
PMTE_FLV	MTC TRANSFORMING PROTEIN	FELINE LEUKEMIA PROVIRUS FTT	393-420								
PMTE_FLVTT	MTC TRANSFORMING PROTEIN	HEUS VIRUS	48-76	139-156							
PNCA2_BEV	NUCLEOCAPSID PROTEIN	BUNYAVIRUS LA CROSSE	15-113								
PNCA2_BUNLC	NUCLEOCAPSID PROTEIN	BUNYAVIRUS SNOWSHOE HARE	96-123								
PNCA2_BUNSH	NUCLEOCAPSID PROTEIN	BUNYAVIRUS SNOWSHOE HARE	40-75	109-130							
PNCA2_BUNYW	NUCLEOCAPSID PROTEIN	BUNYAMWERA VIRUS									

PCGENE	10:17Wed	All Viruses (no bacteriophage)										
FILE NAME	PROTEIN	VIRUS	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1
PNCAP_CCHFV	NUCLEOCAPSID PROTEIN	CRIMEAN-CONGO HEMORRHAGIC FEVER VIRUS (ISOLATE C68011)	221-271									
PNCAP_CDVD	NUCLEOCAPSID PROTEIN	CANINE DISTEMPER VIRUS (STRAIN ONDERSTEPOORT)	148-174									
PNCAP_CNAV	NUCLEOCAPSID PROTEIN	CHANDIPURA VIRUS (STRAIN 1653514)	48-74									
PNCAP_CVCAE	NUCLEOCAPSID PROTEIN	CANINE ENTERIC CORONAVIRUS (STRAIN K378)	191-237									
PNCAP_CVPPU	NUCLEOCAPSID PROTEIN	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN PUAD	191-237									
PNCAP_CVPR1	NUCLEOCAPSID PROTEIN	PORCINE RESPIRATORY CORONAVIRUS (STRAIN RM/137004 / BRITISH ISOLAT	191-237									
PNCAP_CVPUM	NUCLEOCAPSID PROTEIN	PORCINE RESPIRATORY CORONAVIRUS (STRAIN RM4)	191-237									
PNCAP_DUGAV	NUCLEOCAPSID PROTEIN	DUGBE VIRUS	238-285									
PNCAP_FIPV	NUCLEOCAPSID PROTEIN	FELINE INFECTIOUS PERITONITIS VIRUS (STRAIN 79-1146)	182-209									
PNCAP_HAZVJ	NUCLEOCAPSID PROTEIN	HAZARA VIRUS (ISOLATE HC310)	6-33	236-283								
PNCAP_HRSV1	NUCLEOCAPSID PROTEIN	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN 18537)	4-31	74-108	112-141							
PNCAP_HRSVA	NUCLEOCAPSID PROTEIN	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	4-31									
PNCAP_LASIG	NUCLEOCAPSID PROTEIN	LASSA VIRUS (STRAIN GA391)	64-99	147-174								
PNCAP_LASJU	NUCLEOCAPSID PROTEIN	LASSA VIRUS (STRAIN JOSIAH)	64-99	467-504								
PNCAP_LYCVA	NUCLEOCAPSID PROTEIN	LYMPHOCYTIC CHORIOMENINGITIS VIRUS (STRAIN ARMSTRONG)	64-97									
PNCAP_MAGV	NUCLEOCAPSID PROTEIN	MACIAS VIRUS	41-68	192-219								
PNCAP_MOPEI	NUCLEOCAPSID PROTEIN	MOPEIA VIRUS	64-99									
PNCAP_PIIRC	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C35)	377-404	455-482								
PNCAP_PIIWV	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN WASHINGTON/1935)	377-404	484-488								
PNCAP_PIIVH	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN NIH J#891)	376-403									
PNCAP_PTPV	NUCLEOCAPSID PROTEIN	PUNTA TORO PHLEBOVIRUS	3-30									
PNCAP_PUUAN	NUCLEOCAPSID PROTEIN	PUUMALA VIRUS (STRAIN HALLNAS B1)	2-29									
PNCAP_PUUKS	NUCLEOCAPSID PROTEIN	PUUMALA VIRUS (STRAIN SOTKAMO)	2-29									
PNCAP_PVM	NUCLEOCAPSID PROTEIN	PNEUMONIA VIRUS OF MICE	93-120									
PNCAP_RABVA	NUCLEOCAPSID PROTEIN	RABIES VIRUS (STRAIN AVO1)	133-167									
PNCAP_RABVP	NUCLEOCAPSID PROTEIN	RABIES VIRUS (STRAIN PV)	133-167									
PNCAP_RABVS	NUCLEOCAPSID PROTEIN	RABIES VIRUS (STRAIN SAD B19)	133-167									
PNCAP_SENDI	NUCLEOCAPSID PROTEIN	SENDAI VIRUS (STRAIN 2 / HOST MUTANTS)	363-404									
PNCAP_SENDE	NUCLEOCAPSID PROTEIN	SENDAI VIRUS (STRAIN ENDERS)	363-404									
PNCAP_SENDZ	NUCLEOCAPSID PROTEIN	SENDAI VIRUS (STRAIN Z)	363-404									
PNCAP_SFSV	NUCLEOCAPSID PROTEIN	SANDFLY FEVER SICILIAN VIRUS	4-31									
PNCAP_SV41	NUCLEOCAPSID PROTEIN	SIMIAN VIRUS 41	507-534									
PNCAP_TACV	NUCLEOCAPSID PROTEIN	TACAIUBE VIRUS	36-77									
PNCAP_TOSV	NUCLEOCAPSID PROTEIN	TOSCANA VIRUS	6-33									
PNCAP_UUK	NUCLEOCAPSID PROTEIN	UUKUNIEMI VIRUS	68-102									
PNCAP_VHSVN	NUCLEOCAPSID PROTEIN	VIRAL HEMORRHAGIC SEPTICEMIA VIRUS (STRAIN 07-71)	284-314									
PNCAP_VHSVM	NUCLEOCAPSID PROTEIN	VIRAL HEMORRHAGIC SEPTICEMIA VIRUS (STRAIN MAKAH)	106-136	284-314								
PNCAP_VSVIN	NUCLEOCAPSID PROTEIN	VESICULAR STOMATITIS VIRUS (SEROTYPE INDIANA / STRAIN GLASGOW	56-83									
PNCAP_VSVO	NUCLEOCAPSID PROTEIN	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN OGDEN	67-94	338-365								
PNCAP_VSVSJ	NUCLEOCAPSID PROTEIN	VESICULAR STOMATITIS VIRUS (STRAIN SAN JUAN)	56-83									
PNEF_HVIBL	NEGATIVE FACTOR	HUMAN BOVINODEFICIENCY VIRUS TYPE 1 (BELTISOLATE)	81-119									
PNEF_HVIBO	NEGATIVE FACTOR	HUMAN BOVINODEFICIENCY VIRUS TYPE 1 (BOK ISOLATE)	81-119									
PNEF_HVIZA	NEGATIVE FACTOR	HUMAN BOVINODEFICIENCY VIRUS TYPE 1 (ZAIRE 6 ISOLATE)	86-124									
PNEF_SIVAJ	NEGATIVE FACTOR	SIMIAN BOVINODEFICIENCY VIRUS (ISOLATE AGM / CLONE GRI-1)	96-137									
PNRAM_IABDA	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/BLACK DUCK/AUSTRALIA/760/76)	47-81									
PNRAM_IACAD	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/CAMEL/MONGOLIA/62)	33-64									
PNRAM_IACHI	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/CHILE/1983)	16-43	50-91								
PNRAM_IADAI	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERTA/35/76)	51-81									
PNRAM_IADGE	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/DUCK/GERMANY/49)	21-48									
PNRAM_IAFPW	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/WEYBRIDGE)	16-48	33-80	197-224							
PNRAM_IAHKO	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/EQUINE/KOH/1974)	197-224	384-413								
PNRAM_IAHK1	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/EQUINE/KENTUCKY/1/81)	5-44	45-76	364-400							
PNRAM_IAJAS	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/KIEV/59/79)	50-81									
PNRAM_IALEN	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/1)	50-81									
PNRAM_IALEI	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/MEMPHIS/1/1986-A/BELLANY/42/N)	16-43	50-81								
PNRAM_IAPAR	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/PARROT/ULSTER/73)	16-43	50-81								
PNRAM_IAPUE	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	16-43									

PCGENE	1971a11tit	All Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FLUA_BAMBE	PROTEIN	VIRUS	49-88								
FMRAM_IAHUE	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/TERNAUSTRALIA/69-RC/75)	49-82								
FMRAM_IATRA	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/TERNAUSTRALIA/69-RC/75)	50-81								
FMRAM_IAUSS	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN AUSSR/90/77)	49-88								
FMRAM_IAWSN	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/WILLS/AUS/36/34)	16-43								
FMRAM_IAWSN	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/WILSON-SMITH/33)	4-51								
FMRAM_IAWS_	NEURAMINIDASE	INFLUENZA B VIRUS (STRAIN B/LEE/40)	4-51								
FMRAM_IBBLE	NEURAMINIDASE	INFLUENZA B VIRUS (STRAIN B/LEE/40)	383-310								
FNS1_BDEV	PROB NONSTRUC PRO PRECURSOR	BOMBYX DENSONUCLEOSIS VIRUS	42-69								
FNS1_BDEV	PROB NONSTRUC PRO PRECURSOR	BOMBYX DENSONUCLEOSIS VIRUS	93-128								
FNS1_INSVH	NON-STRUCTURAL PROTEIN	INFATIENS NECROTIC SPOT VIRUS (BRAZILIAN ISOLATE (PNI11018-01)	5-33	172-462							
FNS1_TSWVB	NON-STRUCTURAL PROTEIN	TOMATO SPOTTED WILT VIRUS (STRAIN BRAZIL)	5-33								
FNS1_TSWVL	NON-STRUCTURAL PROTEIN	TOMATO SPOTTED WILT VIRUS (STRAIN L)	28-69								
FNTP1_AMEPV	NUCLEOSIDE TRIPHOSPHATASE I	AMSACTA MOOREI ENTOMOPOXVIRUS	1122-166	317-334	524-551						
FNTP1_CEPV	NUCLEOSIDE TRIPHOSPHATASE I	CHORISTONEURA BIENNIS ENTOMOPOXVIRUS	65-93	394-421	514-541						
FNTP1_VACCC	NUCLEOSIDE TRIPHOSPHATASE I	VACCINIA VIRUS (STRAIN COPENHAGEN)	65-93	394-421	514-541						
FNTP1_VACCV	NUCLEOSIDE TRIPHOSPHATASE I	VACCINIA VIRUS (STRAIN WR)	2005-337	438-447	455-483						
FNTP1_VAV	NUCLEOSIDE TRIPHOSPHATASE I	VARIOLA VIRUS	61-108	189-216	688-715	785-812					
FP100_NEWAU	MAJOR ANTIGENIC STRUCTL PROTEIN	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN UGANDA-1102)	88-115								
FPAP1_VACCC	POLY(A) POL CATALYTIC SUBUNIT	VACCINIA VIRUS (STRAIN COPENHAGEN)	88-115								
FPAP1_VACCV	POLY(A) POL CATALYTIC SUBUNIT	VACCINIA VIRUS (STRAIN WR)	88-115								
FPAP1_VAV	POLY(A) POL CATALYTIC SUBUNIT	VARIOLA VIRUS	116-145								
FPAP2_CAPVK	POLY(A) POL LEG SUBUNIT	CAPRIPOXVIRUS (STRAIN KS-1)	17-54								
FPAP2_FOWPV	POLY(A) POL LEG SUBUNIT	FOWLPOX VIRUS	17-54								
FPE12_NPVAC	12.1 KD PROTEIN IN PXS 5'REGION	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	61-95								
FPE13_NPVOP	11.5 KD PROTEIN IN PXS 5'REGION	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	204-248								
FPE38_NPVAC	MAJOR IMMEDIATE EARLY PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	6-38	51-78							
FPE38_NPVAC	46.3 KD IE1/PE38 INTERGENIC REGION	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	96-133								
FPEN1_ADEGX	PENTON PROTEIN	AVIAN ADENOVIRUS CELO (STRAIN 45)	1275-1299	1775-1802	2226-2263						
FPOL1_BAYMO	GENOME POLYPROTEIN 1	BARLEY YELLOW MOSAIC VIRUS (GERMAN ISOLATE)	1174-1201	3224-3261							
FPOL1_BAYMU	GENOME POLYPROTEIN 1	BARLEY YELLOW MOSAIC VIRUS (JAPANESE STRAIN II-1)	481-508	1009-1041							
FPOL1_GCRV	RNA1 POLYPROTEIN	HUNGARIAN GRAPEVINE CHROMIE MOSAIC VIRUS	136-187	618-677	938-985	1161-1195					
FPOL1_GFLV	RNA1 POLYPROTEIN	GRAPEVINE FANLEAF VIRUS	1096-1123								
FPOL1_TBRVS	RNA1 POLYPROTEIN	TOMATO BLACK RING VIRUS (STRAIN S)	240-281	801-828							
FPOL1_BAYMO	GENOME POLYPROTEIN 2	BARLEY YELLOW MOSAIC VIRUS (GERMAN ISOLATE)	240-267	801-828							
FPOL1_BAYMU	GENOME POLYPROTEIN 2	BARLEY YELLOW MOSAIC VIRUS (JAPANESE STRAIN II-1)	111-38								
FPOL1_GCRV	RNA2 POLYPROTEIN	HUNGARIAN GRAPEVINE CHROMIE MOSAIC VIRUS	549-576								
FPOL1_GFLV	RNA2 POLYPROTEIN	GRAPEVINE FANLEAF VIRUS	943-1009								
FPOL1_TRSVA	RNA2 POLYPROTEIN	TOMATO RINGSPOT VIRUS (ISOLATE RASPBERRY)	117-44	1010-1037	1345-1372						
FPOLG_BVDEV	GENOME POLYPROTEIN	BOVINE ENTEROVIRUS (STRAIN VG-1-27)	439-460	1082-1112	1703-1730	2333-2381	2878-2903	3609-3636	3615-3642		
FPOLG_BVDVN	GENOME POLYPROTEIN	BOVINE VIRAL DIARRHEA VIRUS (ISOLATE NADL)	1303-1333	2141-2171	2719-2746	2802-2829	3323-3350				
FPOLG_BVDVS	GENOME POLYPROTEIN	BOVINE VIRAL DIARRHEA VIRUS (STRAIN SD-1)	96-125								
FPOLG_BYMV	GENOME POLYPROTEIN	BEAN YELLOW MOSAIC VIRUS	7-34	664-694	1062-1099	1900-1930					
FPOLG_COXA2	GENOME POLYPROTEIN	COXSACKIEVIRUS A21 (STRAIN COE)	1046-1076								
FPOLG_COXAB	GENOME POLYPROTEIN	COXSACKIEVIRUS AB (STRAIN GAUGGS)	643-673	841-868	1021-1057						
FPOLG_COXB1	GENOME POLYPROTEIN	COXSACKIEVIRUS B1	1014-1040	1881-1908							
FPOLG_COXB3	GENOME POLYPROTEIN	COXSACKIEVIRUS B3	644-675	1032-1058							
FPOLG_COXB4	GENOME POLYPROTEIN	COXSACKIEVIRUS B4	1032-1060								
FPOLG_COXB5	GENOME POLYPROTEIN	COXSACKIEVIRUS B5	126-154								
FPOLG_CYVV	GENOME POLYPROTEIN	CLOVER YELLOW VEIN VIRUS	1858-1885	2890-2917	2989-3016						
FPOLG_DEN1S	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 1 (STRAIN SINGAPORE S275/90)	1144-1171	1810-1837	2908-2935	2982-3016	3117-3147				
FPOLG_DEN2S	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN 16681)	1144-1171	1810-1837	2908-2935	2982-3016	3117-3147				
FPOLG_DEN3H	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 3 (STRAIN H87-PDK53)	1144-1171	1810-1837	2908-2935	2982-3016	3117-3147				
FPOLG_DEN4T	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 4 (STRAIN 1036)	1144-1171	1810-1837	2908-2935	2982-3016	3117-3147				
FPOLG_DENJ1	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 1 (STRAIN JAMAICA)	1144-1171	1836-1863	2905-2932	2979-3013	3114-3144	3343-3370			
FPOLG_DENJ2	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN PR159/S1)	1144-1171	1836-1863	2905-2932	2979-3013	3114-3144	3343-3370			
FPOLG_DENJ3	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 3 (STRAIN TONGA 1974)	1136-1163	1640-1667							
FPOLG_DENJ4	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 4	1137-1164	1541-1568	1837-1864	2694-2721	3090-3117	3315-3342			
FPOLG_DENS	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 3	1285-1310	2677-2704	3042-3069						
FPOLG_DENV	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 4	1137-1164								
FPOLG_ECHO1	GENOME POLYPROTEIN	ECHOVIRUS 11 (STRAIN GREGORY)									

PCGENE	107217as4	All Viruses (no bacteriophages)	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1
FILE NAME	PROTEIN	VIRUS	76-108	1484-1518	1532-1563						
PPOLO_ENCV	GENOME POLYPROTEIN	ENCEPHALOMYOCARDITIS VIRUS	76-97	1484-1518	1532-1563						
PPOLO_ENCVB	GENOME POLYPROTEIN	ENCEPHALOMYOCARDITIS VIRUS (STRAIN ENC-B MONDIADETOGENIC)	76-97	1486-1520	1534-1565						
PPOLO_ENCVD	GENOME POLYPROTEIN	ENCEPHALOMYOCARDITIS VIRUS (STRAIN ENC-D DIADETOGENIC)	76-97	1486-1520	1534-1565						
PPOLO_ENMG	GENOME POLYPROTEIN	MENGO ENCEPHALOMYOCARDITIS VIRUS (STRAIN 7TA)	76-108								
PPOLO_ENMGO	GENOME POLYPROTEIN	MENGO ENCEPHALOMYOCARDITIS VIRUS	3-41								
PPOLO_FMDV1	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN A10-61)	102-139	1118-1146							
PPOLO_FMDVA	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN A11)	101-138	1118-1146							
PPOLO_FMDVO	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN'S OIK AND O1BFS)	1118-1146								
PPOLO_FMDV3	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN C1-SANTA PAU (C-S8))	101-138								
PPOLO_HCV1	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE 1)	702-739								
PPOLO_HCVB	GENOME POLYPROTEIN	HOG CHOLERA VIRUS (STRAIN ALFORT)	699-736	1195-1232	1243-1277	1434-1461	1868-1895	1486-1440			
PPOLO_HCVH	GENOME POLYPROTEIN	HOG CHOLERA VIRUS (STRAIN BRESCIA)	699-736	1195-1231	1244-1695	1486-1440	1332-1535				
PPOLO_HCVJK	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE BK)	702-739	1045-1077							
PPOLO_HCVJ1	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE J1)	702-739	1045-1077							
PPOLO_HCVJ.	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HC-J6)	174-401	2089-2116							
PPOLO_HCVJ8	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HC-J8)	1049-1076	2089-2116							
PPOLO_HCVJA	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE JAPANESE)	238-465	702-729	1045-1077						
PPOLO_HCVJF	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HC-J1)	702-739	1045-1077							
PPOLO_HCVTW	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE TAIWAN)	702-739	1045-1082							
PPOLO_HPAV3	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN 24A)	201-237	1021-1048	1111-1149	1454-1481					
PPOLO_HPAV4	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN 4JC)	201-237	1021-1048	1111-1149	1454-1481					
PPOLO_HPAV6	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN 18F)	201-237	1021-1048	1111-1149	1454-1481					
PPOLO_HPAVC	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN CR326)	201-237								
PPOLO_HPAVG	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN GA/76)	181-216								
PPOLO_HPAVM	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN HM-175)	201-237	1021-1048	1103-1149						
PPOLO_HPAVL	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN LA)	201-237	1021-1048	1103-1149						
PPOLO_HPAVS	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN SB)	201-237	1021-1048	1103-1149						
PPOLO_HPAVS	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN AGM-27)	201-241	1025-1053	1115-1153						
PPOLO_HPAVT	GENOME POLYPROTEIN	SIMIAN HEPATITIS A VIRUS (STRAIN CY-145)	201-237								
PPOLO_HRV14	GENOME POLYPROTEIN	HUMAN RHINOVIRUS 14	17-44	539-586	652-679	1877-1904					
PPOLO_HRV1B	GENOME POLYPROTEIN	HUMAN RHINOVIRUS 1B	1132-1159	1535-1582							
PPOLO_HRV2	GENOME POLYPROTEIN	HUMAN RHINOVIRUS 2	1135-1152	1532-1591							
PPOLO_HRV89	GENOME POLYPROTEIN	HUMAN RHINOVIRUS 89	861-910	1141-1168	1366-1607	1862-1889					
PPOLO_HRVF	GENOME POLYPROTEIN	HUMAN ENTEROVIRUS 70 (STRAIN J670/71)	876-910								
PPOLO_HSVO	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN OH)	231-277								
PPOLO_JAEV	GENOME POLYPROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN SA-14)	314-348	901-1010	1396-2133						
PPOLO_JAEV1	GENOME POLYPROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN SA(V))	314-348	901-1010	1396-2133						
PPOLO_JAEV3	GENOME POLYPROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN JaOArS982)	314-348	901-1010	2794-2833						
PPOLO_JAEVN	GENOME POLYPROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN NAKAYAMA)	141-175	911-938							
PPOLO_KUNBA	GENOME POLYPROTEIN	KUNJIN VIRUS (STRAIN MRM4C)	908-1007								
PPOLO_LANVT	GENOME POLYPROTEIN	LANGAT VIRUS (STRAIN TP11)	431-465	1434-1461							
PPOLO_LANVY	GENOME POLYPROTEIN	LANGAT VIRUS (STRAIN YELANTSEV)	431-465								
PPOLO_LIV	GENOME POLYPROTEIN	LOUPING ILL VIRUS	431-465								
PPOLO_LIVSB	GENOME POLYPROTEIN	LOUPING ILL VIRUS (STRAIN SB 326)	131-185								
PPOLO_MOTA	GENOME POLYPROTEIN	MOSQUITO CELL FUSING AGENT	651-696	1054-1083	1303-1330						
PPOLO_MOMV	GENOME POLYPROTEIN	MAIZE DWARF MOSAIC VIRUS	116-53								
PPOLO_MVEV	GENOME POLYPROTEIN	MURRAY VALLEY ENCEPHALITIS VIRUS	212-256								
PPOLO_OMV	GENOME POLYPROTEIN	ORNITHOGALUM MOSAIC VIRUS	24-51	944-977							
PPOLO_PEMVC	GENOME POLYPROTEIN	PEPPER MOTTLE VIRUS (CALIFORNIA ISOLATE)	377-404	784-738	811-838	900-927	1167-1201	1403-1512	1787-1814	2433-2464	
PPOLO_POLIM	GENOME POLYPROTEIN	POLIOVIRUS TYPE 1 (STRAIN MAHONEY)	1060-1100	1901-1931							
PPOLO_POLIS	GENOME POLYPROTEIN	POLIOVIRUS TYPE 1 (STRAIN SABIN)	678-697	1063-1100	1903-1933						
PPOLO_POLIL	GENOME POLYPROTEIN	POLIOVIRUS TYPE 1 (STRAIN LANSING)	1061-1099	1901-1931							
PPOLO_POLIW	GENOME POLYPROTEIN	POLIOVIRUS TYPE 2 (STRAIN W-2)	1061-1099	1901-1931							
PPOLO_POLIJ	GENOME POLYPROTEIN	POLIOVIRUS TYPE 3 (STRAIN 2121?)	1060-1098	1900-1930							
PPOLO_POLIL	GENOME POLYPROTEIN	POLIOVIRUS TYPE 3 (STRAINS PYLEON/57 AND PYLEON 12A[1]B)	1060-1091	1900-1930							
PPOLO_PPVD	GENOME POLYPROTEIN	PLUM POX POTYVIRUS (STRAIN D)	921-948	1498-1535	2771-2798						
PPOLO_PPVEA	GENOME POLYPROTEIN	PLUM POX POTYVIRUS (STRAIN EL AMAR)	1146-1187								

ACCGENE	All Viruses (no bacteriophages)	AREA1	AREA1	AREA2	AREA4	AREA4	AREA5	AREA1	AREA1	AREA1
1B7:17B:4	VIRUS	930-947	1497-1524	2170-2186						
1B:01IN	PLUM POX POTYVIRUS (ISOLATE NAT)	930-947	1497-1524	2170-2187						
1POLO_PPVNA	PLUM POX POTYVIRUS (STRAIN RANKOVIC)	500-537								
1POLO_PPVTA	PAPAYA RINGSPOT VIRUS (STRAIN P MUTANT IIA)	391-418								
1POLO_PRSVI	PAPAYA RINGSPOT VIRUS (STRAIN P MUTANT IIA 5-1)	489-516								
1POLO_PRSVP	PAPAYA RINGSPOT VIRUS (STRAIN W)	231-315	1133-1177	1318-1337						
1POLO_PRSVW	PEA SEED-BORNE MOSAIC VIRUS (STRAIN DP01)	413-440	701-735	701-735	1486-1513	1777-1811				
1POLO_PSBMV	POTATO VIRUS Y (STRAIN O (PVY))	218-245	413-440	1486-1513	1777-1811					
1POLO_PVYC	POTATO VIRUS Y (STRAIN HUNGARIAN)	413-440	701-735	701-735						
1POLO_PVYHU	POTATO VIRUS Y (STRAIN N)	413-440	701-735	701-735						
1POLO_PVYN	POTATO VIRUS Y (STRAIN O)	413-440	701-735	701-735						
1POLO_PVYO	PARSNIP YELLOW FLECK VIRUS (ISOLATE P-121)	1124-1151	1707-1734							
1POLO_PVYV1	SUGARCANE MOSAIC VIRUS (STRAIN SC)	10-37								
1POLO_SCMV3	SWINE VESICULAR DISEASE VIRUS (STRAIN UK 76)	1024-1060								
1POLO_SVDVW	1024-1060									
1POLO_SVDVU	TICK-BORNE ENCEPHALITIS VIRUS (STRAIN SOFJIN)	97-121	1276-1312		1612-1661	2265-2292	2409-2910			
1POLO_TBEVS	QEORNE POLYPROTEIN	1032-1059								
1POLO_TBEVW	BORNE ENCEPHALITIS VIRUS (WESTERN SUBTYPE)	143-171	1148-1175	1416-1443	1773-1800					
1POLO_TEV	GENOME POLYPROTEIN	96-111	200-231							
1POLO_TMEVB	TOBACCO ETCH VIRUS	96-111	200-231							
1POLO_TMEVD	THEILER'S MURINE ENCEPHALOMYELITIS VIRUS (STRAIN DEAN 3186)	96-111	200-237							
1POLO_TMEVG	THEILER'S MURINE ENCEPHALOMYELITIS VIRUS (STRAIN DA)	96-111	200-237							
1POLO_TMEVO	THEILER'S MURINE ENCEPHALOMYELITIS VIRUS (STRAIN GDVII)	132-163	173-200							
1POLO_TNMV	TURNIP MOSAIC VIRUS	406-433	670-704	2708-2742						
1POLO_TVMV	TOBACCO VEIN MOTTLING VIRUS	202-229								
1POLO_WMV2	WATERMELON MOSAIC VIRUS II	218-254	1285-1312							
1POLO_WNV	WEST NILE VIRUS	434-463								
1POLO_YEFV1	YELLOW FEVER VIRUS (STRAIN 17D)	436-463								
1POLO_YEFV3	YELLOW FEVER VIRUS (STRAIN PASTEUR 17D-204)	68-96								
1POLO_ZYMV	ZUCCHINI YELLOW MOSAIC VIRUS	1063-1101	1903-1933							
1POLN_POLIN	POLIOVIRUS TYPE 1 (STRAIN MAHONEY)	1402-1467	1844-1921							
1POLN_EVVT	VENEZUELAN EQUINE ENCEPHALITIS VIRUS (STRAIN TRINIDAD DONKEY)	445-472								
1POLN_FCVC3	NON-STRUCTURAL POLYPROTEIN (STRAIN CFI/68 FIV)	1024-1061								
1POLN_FCVF3	FELINE CALICIVIRUS (STRAIN F9)	319-346	348-376							
1POLN_HEVBU	NON-STRUCTURAL POLYPROTEIN (STRAIN BURMA)	319-346	348-376							
1POLN_HEVME	HEPATITIS E VIRUS (STRAIN MEXICO)	318-345	346-376							
1POLN_HEVMY	NON-STRUCTURAL POLYPROTEIN	318-345	346-373							
1POLN_HEVPA	HEPATITIS E VIRUS (STRAIN MYANMAR)	318-345	346-373							
1POLN_HEVPK	N-STRUCTURAL POLYPROTEIN	935-962								
1POLN_MDBV	HEPATITIS E VIRUS (STRAIN PAKISTAN)	2451-2488								
1POLN_OHFVC	NONSTRUCTURAL POLYPROTEIN	313-347	1651-1684							
1POLN_OHFVO	MIDDELBURG VIRUS	1037-1084	1677-1704	2418-2445						
1POLN_RUBVA	ONYONG-NYONG VIRUS (STRAIN GULU)	104-135	1087-1114							
1POLN_RUBVW	NON-STRUCTURAL POLYPROTEIN	1037-1084								
1POLN_RUBVY	RABBIT HEMORRHAGIC DISEASE VIRUS	1066-2087								
1POLN_SFV	ROSS RIVER VIRUS (STRAIN NB5092)	1134-1181								
1POLN_SINDD	ROSS RIVER VIRUS (STRAIN T48)	916-970								
1POLN_SINDV	RUBELLA VIRUS (STRAIN THERIEN)	4-31								
1POLN_WEEV	SEMLIKI FOREST VIRUS	2211-2311								
1POLS_BDVS	SINDBIS VIRUS (SUBTYPE OCKELBO / STRAIN EDSBYN 81-5)	2211-2311								
1POLS_BDVA	WESTERN EQUINE ENCEPHALITIS VIRUS (STRAIN 71V70)	2211-2311								
1POLS_BDVC	STRUCTURAL POLYPROTEIN	2211-2311								
1POLS_BDVE	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN AUSTRALIAN 002-73)	2211-2311								
1POLS_BDVF	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN CU-1)	2211-2311								
1POLS_BDVH	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN E)	2211-2311								
1POLS_BDVI	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN P2G-98)	2212-2239								
1POLS_BDVS	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN STC)	2211-2311								
1POLS_BDVT	ONYONG-NYONG VIRUS (STRAIN GULU)	1346-1383								
1POLS_CHIKV	ROSS RIVER VIRUS (STRAIN NB5092)	1346-1383								
1POLS_RLVN	ROSS RIVER VIRUS (STRAIN T48)	939-973								
1POLS_RLVT	STRUCTURAL POLYPROTEIN	939-973								
1POLS_SINDO	SINDBIS VIRUS (STRAIN HRSP AND HOLP)	1118-1165								
1POLS_SINDV	STRUCTURAL POLYPROTEIN	1138-1165								
1POLS_WEEV	WESTERN EQUINE ENCEPHALITIS VIRUS	926-947								
1POLT_BAEVM	POL POLYPROTEIN	675-706	1115-1142							
	BABOON ENDOGENOUS VIRUS (STRAIN M7)									

PCGENE	All Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILE NAME	VIRUS									
PROT_CAPVC	CAPRINE ARTHRITIS ENCEPHALITIS VIRUS (STRAIN CORK)	804-924	1071-1102	1178-1203	1310-1347					
PROT_COTMV	COWPEA MOSAIC VIRUS	333-360	818-865							
PROT_CYMV	CYMBIDIUM MOTTLE VIRUS	478-505	826-853							
PROT_EAVE	EQUINE ARTERITIS VIRUS (CLONE 1149)	477-504	826-853							
PROT_EAVC	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE CL32)	477-504	835-853							
PROT_EAVW	EQUINE INFECTIOUS ANEMIA VIRUS (ISOLATE WYOMING)	532-599	837-854							
PROT_FEIV	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE PETALUMA)	447-473								
PROT_FMVR	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN A12)	483-530								
PROT_FMVS	FOWLPOX VIRUS	531-547	576-703							
PROT_GALV	GIBBON APE LEUKEMIA VIRUS	674-711								
PROT_HTLIA	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (STRAIN ATK)	674-711								
PROT_HTLIC	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (CARIBBEAN ISOLATE)	674-711								
PROT_HVIA3	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (ARV-2/SF-2 ISOLATE)	218-245	626-661							
PROT_HVIBR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRU ISOLATE)	206-237	627-673							
PROT_HVIBT	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH10 ISOLATE)	206-237	627-673							
PROT_HVIBJ	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH8 ISOLATE)	206-237	627-673							
PROT_HVIBR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRU ISOLATE)	206-237	627-673							
PROT_HVIEL	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE)	217-244	624-660							
PROT_HVIH2	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HXB2 ISOLATE)	218-245	626-661	921-951						
PROT_HVIHG	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HXB3 ISOLATE)	218-245	626-661							
PROT_HVIJR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JRCSF ISOLATE)	223-249	624-660							
PROT_HVIMA	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MAL ISOLATE)	217-244	618-654							
PROT_HVIMN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MN ISOLATE)	217-244	618-654							
PROT_HVINH	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NEW YORK-5 ISOLATE)	221-248	631-661							
PROT_HVINI	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)	218-245	631-667							
PROT_HVIND	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (OYI ISOLATE)	217-244	624-660							
PROT_HVIOY	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	218-245	626-661							
PROT_HVIPV	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (RF/HAT ISOLATE)	230-257	631-673							
PROT_HVIRH	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (STRAIN UGANDAN1/ISOLATE C)	217-244	619-660							
PROT_HVIU4	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (22XCDC-2)4 ISOLATE)	217-244	619-660							
PROT_HVIB2	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE BEN)	491-518								
PROT_HVIB2	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE CAM2)	471-503								
PROT_HV2CA	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D194)	509-600								
PROT_HV2D1	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D205.7)	491-548								
PROT_HV2D2	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE GHANA-1)	471-503								
PROT_HV2G1	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NIH-Z)	471-519								
PROT_HV2N2	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD)	472-503								
PROT_HV2RO	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE SBL/ISY)	472-503								
PROT_HV2S1	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST)	491-548								
PROT_IHA	PUTATIVE POL POLYPROTEIN	200-237	354-381	461-499						
PROT_IPNA	MASTER INTRACISTERNAL A-PARTICLE	111-138	382-329	400-437						
PROT_IPNAJ	PUTATIVE POL POLYPROTEIN	111-138	382-329							
PROT_JSRV	MOUSE INTRACISTERNAL A-PARTICLE	130-157	221-248							
PROT_MLVAK	PROBABLE POL POLYPROTEIN	204-231								
PROT_MLVAV	SHEEP PULMONARY ADENOMATOSIS VIRUS	453-480								
PROT_MLVB	AKV MURINE LEUKEMIA VIRUS	803-832								
PROT_MLVBD	ABELSON MURINE LEUKEMIA VIRUS	716-743	803-832							
PROT_MLVBR	RADIATION MURINE LEUKEMIA VIRUS (STRAIN KAPLAN)	101-128	190-217							
PROT_MLVFR	FRIEND MURINE LEUKEMIA VIRUS	574-612	639-667							
PROT_MPMV	SQUIRREL MONKEY RETROVIRUS (STRAIN SA-OMVV)	87-94	471-505	873-900						
PROT_OMVV3	OVINE LENTIVIRUS (STRAIN SA-OMVV)	997-1024								
PROT_RSVP	ROUS SARCOMA VIRUS (STRAIN PRAGUE C)	7-44	59-93	176-203	202-239	418-457	447-476	1023-1049		
PROT_RTBV	PUTATIVE POL POLYPROTEIN	BCE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES)	7-44	59-93	176-203	202-239	418-457	447-476	1023-1049	
PROT_RTBV2	POL POLYPROTEIN	BCE TUNGRO BACILLIFORM VIRUS	431-454							
PROT_SFV1	POL POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 1)	716-743	803-832						
PROT_SIVA1	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM155 ISOLATE)	471-498	547-574	617-671					
PROT_SIVA3	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM3 ISOLATE)	43-72							
PROT_SIVA3	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM34 ISOLATE)	71-98							
PROT_SIVAG	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM6 ISOLATE)	436-463	482-516	642-669					
PROT_SIVAI	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM / CLONE GM1-1)	478-515							
PROT_SIVAS	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	651-691							
PROT_SIVC2	POL POLYPROTEIN	CHIMPANZEE IMMUNODEFICIENCY VIRUS (SIVCPZ1)	243-269	416-445						

FCGENE	[07:17]Id	All Viruses (no bacteriophages)	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA2
CDS_NAME	PROTEIN	VIRUS	321-354	636-670								
PROT_SIVGB	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE GB1)	333-366									
PROT_SIVAI	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (MM142-83 ISOLATE)	333-366									
PROT_SIVAG	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM ISOLATE)	496-533									
PROT_SIVAGC	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 AGM ISOLATE)	499-536									
PROT_SIVSP	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PBJBC13 ISOLATE)	481-518									
PROT_SMRVH	POL POLYPROTEIN	SQUIRREL MONKEY RETROVIRUS (SMRV-H)	368-395	718-419								
PROT_SOCRV	ENZYMATIC POLYPROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	378-413	670-697								
PROT_SIVI	POL POLYPROTEIN	SIMIAN LENTIVIRUS SIV-1	490-524	881-919								
PROT_VILV1	POL POLYPROTEIN	VISNA LENTIVIRUS (STRAIN 1514)	89-116	490-524	881-919							
PROT_VILV2	POL POLYPROTEIN	VISNA LENTIVIRUS (STRAIN 1514) CLONE LV1-1K5J)	490-524	881-919								
PROT_VILV3	POL POLYPROTEIN	VISNA LENTIVIRUS (STRAIN 1514) CLONE LV1-1K5J)	388-515									
PROT_MMTVB	PROTEIN (P73)	MOUSE MAMMARY TUMOR VIRUS (STRAIN BR6)	43-79									
PROT_MMTVG	PROTEIN (P73)	MOUSE MAMMARY TUMOR VIRUS (STRAIN GR)	167-201									
PROT_MMTVG	PROTEIN (P73)	MOUSE MAMMARY TUMOR VIRUS (STRAIN GR)	37-71									
PPYHD_CVBM	POLYHEDRIN PRECURSOR	BOMBYX MORI CYTOPLASMIC POLYHEDROSIS VIRUS	13-47									
PPYHD_NPVAC	POLYHEDRIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	14-48	381-328								
PPYHD_NPVAS	POLYHEDRIN	AGROTIS SEGETUM NUCLEAR POLYHEDROSIS VIRUS	13-46									
PPYHD_NPVBM	POLYHEDRIN	BOMBYX MORI NUCLEAR POLYHEDROSIS VIRUS	14-48									
PPYHD_NPVBS	POLYHEDRIN	BUZURA SUPPRESSARIA NUCLEAR POLYHEDROSIS VIRUS	13-46									
PPYHD_NPVHC	POLYHEDRIN	HYPHANTRIA CUNEA NUCLEAR POLYHEDROSIS VIRUS	14-48									
PPYHD_NPVLD	POLYHEDRIN	LYMANTRIA DISPAR MULTICAPSID NUCLEAR POLYHEDROSIS VIRUS	14-48									
PPYHD_NPVMB	POLYHEDRIN	MAMESTRA BRASSICAE NUCLEAR POLYHEDROSIS VIRUS	13-47									
PPYHD_NPVOP	POLYHEDRIN	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	14-48									
PPYHD_NPVOS	POLYHEDRIN	ORGYIA PSEUDOTSUGATA SINGLE CAPSID NUCLEAR POLYHEDROSIS VIRUS	14-48									
PPYHD_NPVPP	POLYHEDRIN	PANOLIS FLAMMEA MULTIPLE NUCLEOCAPSID POLYHEDROSIS VIRUS	14-48									
PPYHD_NPVSE	POLYHEDRIN	SPODOPTERA EXIGUA NUCLEAR POLYHEDROSIS VIRUS (STRAIN US)	14-48									
PPYHD_NPVSI	POLYHEDRIN	SPODOPTERA FRUGIPERDA NUCLEAR POLYHEDROSIS VIRUS	14-48									
PREV_SIVAT	REV PROTEIN	SIMIAN LENTIVIRUS (STRAIN 1514)	32-65									
PREV_VILV	REV PROTEIN	VISNA LENTIVIRUS (STRAIN 1514)	1-41	88-119	167-200							
PUBI_ASFM2	LIBONUC-DNAPOLYM REDUCT LARGE CHA	AFRICAN SWINE FEVER VIRUS (ISOLATE MALAWI LIL. 20/1)	632-669									
PUBI_HCMVA	LIBONUC-DNAPOLYM REDUCT LARGE CHA	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	35-102									
PUBI_HSV1B	LIBONUC-DNAPOLYM REDUCT LARGE CHA	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	1334-551									
PUBI_HSV1E	LIBONUC-DNAPOLYM REDUCT LARGE CHA	HERPESVIRUS SAIMIRI (STRAIN 11)	197-401									
PUBI_HSV1A	LIBONUC-DNAPOLYM REDUCT LARGE CHA	VACCINIA VIRUS (STRAIN COPENHAGEN)	367-401									
PUBI_VACCC	LIBONUC-DNAPOLYM REDUCT LARGE CHA	VACCINIA VIRUS (STRAIN WR)	367-401									
PUBI_VACCV	LIBONUC-DNAPOLYM REDUCT LARGE CHA	VARIOLA VIRUS	118-146									
PUBI_VAR2	LIBONUC-DNAPOLYM REDUCT LARGE CHA	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	96-117									
PUBI_VSV6	LIBONUC-DNAPOLYM REDUCT SMALL CHA	BOVINE HERPESVIRUS TYPE 1 (STRAIN 10)	41-68	113-140								
PUBI_VACCV	DNA-POL-ASSOC TRANS SPEC FACTOR	VACCINIA VIRUS (STRAIN WR)	61-93	113-140								
PUPM_VAIV	DNA-POL-ASSOC TRANS SPEC FACTOR	VARIOLA VIRUS	1337-164	181-818	818-817	961-993						
PUPO1_VACCC	DNA-DIRECTED RNA POL 147 KD	VACCINIA VIRUS (STRAIN COPENHAGEN)	1337-364	181-818	818-817	961-993	1011-1038					
PUPO1_VACCV	DNA-DIRECTED RNA POL 147 KD	VACCINIA VIRUS (STRAIN WR)	1337-364	181-818	818-817	961-993						
PUPO1_VAIV	DNA-DIRECTED RNA POL 147 KD	VARIOLA VIRUS	1337-364	181-818	818-817	961-993						
PUPO3_CAPVX	DNA-DIRECTED RNA POL 133 KD	CAPRIPOX VIRUS (STRAIN KS-1)	19-45	114-135								
PUPO3_COWPX	DNA-DIRECTED RNA POL 133 KD	COWPOX VIRUS	211-241	481-509								
PUPO3_VACCV	DNA-DIRECTED RNA POL 133 KD	VACCINIA VIRUS (STRAIN WR)	211-241	481-509								
PUPO3_VAIV	DNA-DIRECTED RNA POL 133 KD	VARIOLA VIRUS	211-241	481-509								
PUPO4_CAPVX	DNA-DIRECTED RNA POL 33 KD	CAPRIPOX VIRUS (STRAIN KS-1)	34-43									
PUPO4_VACCV	DNA-DIRECTED RNA POL 19 KD	VACCINIA VIRUS (STRAIN WR)	6-33	43-70								
PUPO4_VAIV	DNA-DIRECTED RNA POL 19 KD	VARIOLA VIRUS	1513-1540	43-70								
PUPA_LELV	DNA-DIRECTED RNA POLYMERASE	LELYSTAD VIRUS	888-915	1039-1071								
PUPA_EAV	DNA-DIRECTED RNA POLYMERASE	EQUINE ARTERITIS VIRUS	531-402									
PUPO1_IAV	DNA-DIRECTED RNA POL SUB P1	INFLUENZA A VIRUS (STRAIN A/PR/8/34)	118-146									
PUPO1_IANN	DNA-DIRECTED RNA POL SUB P1	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	118-146									
PUPP_IANN	DNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/DUCK/HOKKAIDO/1/79)	118-146									
PUPP_IAWS	DNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK/34)	118-146									
PUPP_IAPR	DNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/PR/8/34)	118-146									
PUPP_IAGR	DNA-DIRECTED RNA POL SUB P2	INFLUENZA A VIRUS (STRAIN A/GULL/MARYLAND/704/77)										

PCGENE	10?x??0rf	All Viruses (no bacteriophage)											
FILENAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9	AREA10
PROT_VARL0	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/EQUINE/LONDON/1416/73)	119-146									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/EQUINE/TENNESSEE/1/75(H3N8))	119-146									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERTA/60/76(H4N6))	119-146									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/57)	119-146									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/17/57)	119-146									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/HALLADONEW YORK/8/56(H7N7))	119-146									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	119-146									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/119/76)	119-146									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	119-146									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/MULLIGAN/NEW JERSEY/1/35)	119-146									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/TURKEY/MINNESOTA/833/80)	119-146									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA B VIRUS (STRAIN A/VICTORIA/2/75)	119-148	131-154								
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA B VIRUS (STRAIN A/WILSON-SMITH/33)	119-146									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/15/30)	119-146									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/SWINE/HONG KONG/81/78)	119-146									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/SWINE/HONG KONG/1074/80)	119-146									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/30)	119-146									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/SWINE/TENNESSEE/1/75)	119-146									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA B VIRUS (STRAIN A/ANN ARBOR/1/66 (COLD-ADAPTED))	137-154									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA B VIRUS (STRAIN A/ANN ARBOR/1/66 (WILD-TYPE))	144-154									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA B VIRUS (STRAIN B/ANGANGAYIKE/2/79)	137-194									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA B VIRUS (STRAIN B/USUDGUNGANJIOK KA/1107/73)	137-194									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/USUDGUNGANJIOK KA/1107/73)	331-367									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/CHILE/1/83)	331-338									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/EQUINE/PRAGUE/1/56)	331-361	480-507								
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA A VIRUS (STRAIN A/SWINE/TENNESSEE/1/75)	417-514									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (COLD-ADAPTED))	3-33	472-509								
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (WILD-TYPE))	2-33	472-509								
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA C VIRUS (STRAIN C/BERLIN/1/85)	509-536									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	INFLUENZA C VIRUS (STRAIN C/JJ/50)	509-536									
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	THOGOTO VIRUS	146-176	336-385								
PROT_VAPE	DNA-DIRECTED DNA POLYMERASE	HUMAN CORONAVIRUS (STRAIN 229E)	316-561	724-751	1971-2001	3761-3811						
PROT_CVAH	DNA-DIRECTED DNA POLYMERASE	MURINE CORONAVIRUS (STRAIN JHM)	624-651	4336-4355								
PROT_CVAH	DNA-DIRECTED DNA POLYMERASE	BOVINE CORONAVIRUS (STRAIN LY138)	27-54	535-584	941-984							
PRUP_BEV	DNA-DIRECTED DNA POLYMERASE	MURINE CORONAVIRUS MHV (STRAIN A59)	881-915	1128-1176								
PRUP_CVAA5	DNA-DIRECTED DNA POLYMERASE	MURINE CORONAVIRUS MHV (STRAIN JHM)	885-915	1129-1176								
PRUP_CVAH	DNA-DIRECTED DNA POLYMERASE	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN FS772)	20-47	333-360	385-412							
PRUP_CVPT	DNA-DIRECTED DNA POLYMERASE	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	1316-1343	3296-3331	3347-3374							
PRUP_BVR	DNA-DIRECTED DNA POLYMERASE	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN KB8333)	165-200	416-443								
PRUP_BTV10	DNA-DIRECTED DNA POLYMERASE	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	1032-1059									
PRUP_BUNYW	RNA POLYMERASE	BUNYAMWERA VIRUS	90-114	317-350	1102-1066	1192-1919						
PRUP_CDVD	RNA POLYMERASE BETA SUBUNIT	CANINE DISTEMPER VIRUS (STRAIN ONDERSTEPOORT)	24-51									
PRUP_HANTV	RNA POLYMERASE BETA SUBUNIT	HANTAAN VIRUS (STRAIN 76-118)	404-433	481-510	544-591	731-763	901-946	1993-2020				
PRUP_HRSVA	RNA POLYMERASE BETA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	101-132	216-237	667-694	788-815	1003-1024	1118-1161	1451-1480	1776-1803	2063-2089	
PRUP_HRSVB	RNA POLYMERASE BETA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN 18537)	101-132	216-237	667-694	788-815	1003-1024	1118-1161	1451-1480	1776-1803	2063-2089	
PRUP_MABVM	RNA-DIRECTED DNA POLYMERASE	MARBURG VIRUS (STRAIN MUSOKE)	991-1018	1143-1170	1490-1524	1811-1838	2029-2067	2216-2264				
PRUP_MABVP	RNA-DIRECTED DNA POLYMERASE	MARBURG VIRUS (STRAIN POPP)	991-1018	1490-1524	2339-2367							
PRUP_MEASE	RNA POLYMERASE BETA SUBUNIT	MEASLES VIRUS (STRAIN EDMONSTON)	95-123	196-223	2121-2148							
PRUP_MUMPW	RNA POLYMERASE BETA SUBUNIT	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	111-142	206-237	1602-1632							
PRUP_NDVB	RNA POLYMERASE BETA SUBUNIT	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C48)	256-284	477-504	1996-2023							
PRUP_PIV1H	RNA POLYMERASE BETA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN TOSHIBA)	1223-249	1564-1598	1847-1931	1961-1988						
PRUP_PIV3H	RNA POLYMERASE BETA SUBUNIT	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	33-60	116-143	601-628	1081-1123	1994-2036	2113-2142				
PRUP_PUUMH	RNA-DIRECTED DNA POLYMERASE	PUUMALA VIRUS (STRAIN HALLNAS B1)	388-415	537-591	731-758	864-891	926-953	1940-1971	1998-2025			
PRUP_RABVP	RNA POLYMERASE BETA SUBUNIT	RABIES VIRUS (STRAIN PV)	304-331	605-632	2068-2131							
PRUP_RABVS	RNA POLYMERASE BETA SUBUNIT	RABIES VIRUS (STRAIN SAD B19)	304-331	605-632	2068-2131							
PRUP_RDV	RNA-DIRECTED DNA POLYMERASE	RICE DWARF VIRUS	135-162									
PRUP_RVFV2	RNA-DIRECTED DNA POLYMERASE	RIFT VALLEY FEVER VIRUS (STRAIN ZH-548 M12)	1136-1163	1693-1687								
PRUP_SENGS	DNA POLYMERASE BETA SUBUNIT	SENDAI VIRUS (STRAIN 2 / HOST MUTANTS)	439-458	1081-1116	1726-1754	2145-2180						
PRUP_SENDE	DNA POLYMERASE BETA SUBUNIT	SENDAI VIRUS (STRAIN ENDERS)	449-476	903-936	1349-1376	1965-2000						

XCGENE	(6frl78rd	All Viruses (no bacteriophage)											
		VIRUS	839-936	1063-1116	1729-1756	2145-2180						
FILE NAME	P.HOTUS	SENDAI VIRUS (STRAIN Z)	481-488	564-591	1711-738	901-913						
PRUFF_SENDZ	RNA POLYMERASE BETA SUBUNIT	SEOUL VIRUS (STRAIN 80-39)	1096-1123	1330-1377	1688-1710	2120-2147						
PRUFF_SEOUS	RNA-DIRECTED RNA POLYMERASE	SIMIAN VIRUS 5 (STRAIN 21804-WR)	1092-1119	1406-1320	1977-2000	2040-2107						
PRUFF_SV5WR	RNA POLYMERASE BETA SUBUNIT	SONCHUS YELLOW NET VIRUS	825-839	1092-1119	1119-1136	1195-1235	1336-1357	1415-1442	1671-1698	1857-1884	2083	2110
PRUFF_SYNV	RNA POLYMERASE BETA SUBUNIT	TOMATO SPOTTED WILT VIRUS (BRAZILIAN ISOLATE CPNHBR-01)	471-504	542-573	1119-1136	1791-1798						
PRUFF_TSWVS	RNA-DIRECTED RNA POLYMERASE		2106-2193	2324-2368	2791-2798							
			1412-1437	1037-1071	1504-1531							
PRUFL_UUK	RNA POLYMERASE	UNKNOWN VIRUS	1336-1357	1809-1836								
PRUFL_VSVIM	RNA POLYMERASE BETA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN HAZELHU)	1705-1733	1809-1836								
PRUFL_VSVIO	RNA POLYMERASE BETA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN OGDEN)	1346-1367	1968-1990								
PRUFL_VSVSJ	RNA POLYMERASE BETA SUBUNIT	VESICULAR STOMATITIS VIRUS (STRAIN SAN JUAN)	1336-1363	1564-591								
PRUFO_ACLSV	RNA-DIRECTED RNA POLYMERASE	APPLE CHLOROTIC LEAF SPOT VIRUS	1336-1363	2336-2364								
PRUFO_BWYV	PUTATIVE RNA-DIR RNA POL	BEET WESTERN YELLOWS VIRUS (ISOLATE FL-1)	772-799									
PRUFO_BYDV1	PUTATIVE RNA-DIR RNA POL	BARLEY YELLOW DWARF VIRUS (ISOLATE MAV-PS1)	772-799	772-799								
PRUFO_BYDVP	PUTATIVE RNA-DIR RNA POL	BARLEY YELLOW DWARF VIRUS (ISOLATE PAV)	772-799									
PRUFO_BYDVR	PUTATIVE RNA-DIR RNA POL	BARLEY YELLOW DWARF VIRUS (ISOLATE P-PAV)	93-127	777-804	567-594							
PRUFO_CARMV	PUTATIVE RNA-DIR RNA POL	CARNATION MOTTLE VIRUS	387-414	1040-1067								
PRUFO_CGMVS	PUTATIVE RNA-DIR RNA POL	CUCUMBER GREEN MOTTLE MOSAIC VIRUS (WATERMELON STRAIN SH)	336-363	892-919								
PRUFO_BBDV1	PUTATIVE RNA-DIR RNA POL	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN 52/70)	661-688	717-744								
PRUFO_BBDVA	PUTATIVE RNA-DIR RNA POL	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN AUSTRALIAN 002-73)	771-800									
PRUFO_BNYV	PUTATIVE RNA-DIR RNA POL	INFECTIOUS PANCREATIC NECROSIS VIRUS (SEROTYPE SP)	771-800									
PRUFO_CPMVS	PUTATIVE RNA-DIR RNA POL	INFECTIOUS PANCREATIC NECROSIS VIRUS (SEROTYPE SP)	814-866	1012-1079								
PRUFO_LYCVA	RNA POLYMERASE	INFECTIOUS PANCREATIC NECROSIS VIRUS (STRAIN ARMSTRONG)	407-439	709-736	1012-1099							
PRUFO_PMVS	PUTATIVE RNA-DIR RNA POL	LYMPHOCYTIC CHORIOMENINGITIS VIRUS (STRAIN SPAIN)	61-88									
PRUFO_REOVD	RNA-DIRECTED RNA POLYMERASE	PEPPER MILD MOTTLE VIRUS (STRAIN DEARING)	61-88									
PRUFO_REOVL	RNA-DIRECTED RNA POLYMERASE	REOVIRUS (TYPE 1 / STRAIN LANG)	66-93	218-245	791-811							
PRUFO_RHOTA	RNA-DIR RNA POL SUBUNIT VP1	REOVIRUS (TYPE 1 / STRAIN LANG)	63-93	218-245	791-841	935-1002						
PRUFO_ROTBU	RNA-DIR RNA POL SUBUNIT VP1	BOVINE ROTAVIRUS (STRAIN UK)	3-44	75-102	863-890	943-585						
PRUFO_ROTPC	RNA-DIR RNA POL SUBUNIT VP1	BOVINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	63-93	185-139	791-839	933-1002						
PRUFO_ROTPO	RNA-DIR RNA POL SUBUNIT VP1	PORCINE ROTAVIRUS (STRAIN OSU FFUED	63-93	791-839	935-1002							
PRUFO_ROTSI	RNA-DIR RNA POL SUBUNIT VP1	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	1457-118									
PRUFO_SCVLA	RNA-DIRECTED RNA POLYMERASE	SACCHAROMYCES CEREVISIAE VIRUS L-A	183-204	341-371	1187-1134	1978-2004						
PRUFO_TACV	RNA POLYMERASE	TACAUDE VIRUS	220-237	1516-1341	1397-1424							
PRUFO_TMGMV	PUTATIVE RNA-DIR RNA POL	TOBACCO MILD GREEN MOSAIC VIRUS (TMV STRAIN U1)	96-133									
PRUFP_BLTVA	RNA POLYMERASE ALPHA SUBUNIT	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A51908)	1115-378									
PRUFP_CDVD	RNA POLYMERASE ALPHA SUBUNIT	CANINE DISTEMPER VIRUS (STRAIN ONDERSTEPOORT)	99-141									
PRUFP_HRSV1	RNA POLYMERASE ALPHA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN 18537)	99-141									
PRUFP_HRSVA	RNA POLYMERASE ALPHA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	99-141									
PRUFP_HRSVL	RNA POLYMERASE ALPHA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP A / STRAIN LONG)	99-141									
PRUFP_MEASE	RNA POLYMERASE ALPHA SUBUNIT	MEASLES VIRUS (STRAIN EDMONSTON)	1115-378									
PRUFP_MEASI	RNA POLYMERASE ALPHA SUBUNIT	MEASLES VIRUS (STRAIN EP-1-CA)	1115-378									
PRUFP_MEASY	RNA POLYMERASE ALPHA SUBUNIT	MEASLES VIRUS (STRAIN YAMAGATA-1)	1115-378									
PRUFP_PIIHA	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C3)	84-111	2314-261	1775-416							
PRUFP_PIIHC	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C39)	84-111	1334-261	1775-416							
PRUFP_PIIHH	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C1-5FH)	84-111	1332-362	1775-416							
PRUFP_PIIHO	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C1-5FH)	84-111	2344-371	1775-416							
PRUFP_PIIHS	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C1-1461)	167-194	1222-236								
PRUFP_PIIH	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS	167-194	222-236								
PRUFP_PIIHT	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN TOSHIBA)	34-61	255-282	785-316							
PRUFP_PIIB	RNA POLYMERASE ALPHA SUBUNIT	BOVINE PARAINFLUENZA 3 VIRUS	114-144	269-299								
PRUFP_PIIH4	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	4-31									
PRUFP_PIIHA	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 4A VIRUS (STRAIN TOSHIBA)	93-127									
PRUFP_PMHA	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN PV)	1336-357	1379-430								
PRUFP_RSVP	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN Z / HOST MUTANTS)	1336-357	1379-430								
PRUFP_SENDS	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN 6/4)	1336-357	1379-430								
PRUFP_SENDF	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN FUSHIMI)	1336-357	1379-430								
PRUFP_SENDH	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN HARRIS)	1336-357	1379-430								
PRUFP_SENDZ	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN Z)										

PCGENE	All Viruses (no bacteriophage)										
FILENAME	PROTEIN	VIRUS	AREA1	AREA1	AREA2	AREA1	AREA1	AREA2	AREA1	AREA2	AREA2
PRPP_SVS	DNA POLYMERASE ALPHA SUBUNIT	SIMIAN VIRUS 5 (STRAIN W5)	203-233	236-263							
P300E_VACCV	SUPEROXIDE DISMUTASE LIKE PROTEIN	VACCINIA VIRUS (STRAIN WR)	72-98								
P300E_VARV	SUPEROXIDE DISMUTASE LIKE PROTEIN	VARIOLA VIRUS	72-98								
SPHR_AMEPV	SPHEROIDIN	AMSACTA MOOREI ENTOMOPOXVIRUS	91-118	140-167	227-261	361-390					
P5I1_MYXVL	SERPIN 1	MYXOMA VIRUS (STRAIN LAUSANNE)	286-317								
P5I2_VACCV	SERINE PROTEINASE INHIBITOR 2	VACCINIA VIRUS (STRAIN WR)	19-46								
P5IA_VACCC	SERINE PROTEASE INH 1 HOMOLOG	VACCINIA VIRUS (STRAIN COPENHAGEN)	18-43								
P32S_CHVPI	TYPE II RESTRICTION ENZYME CVIAII	PARAMECHM BURSARIA CHLORELLA VIRUS 1	18-43								
P3A3_VACCV	TRANS-ACTIVATOR PROTEIN A3	VACCINIA VIRUS	95-133								
P3A9_FOWPV	TRANS-ACTIVATOR PROTEIN F9	FOWLPOX VIRUS	3-31								
P3AG_VACCV	TRANS-ACTIVATOR PROTEIN G8.1	VACCINIA VIRUS	3-30								
P3AL_VARV	TRANS-ACTIVATOR PROTEIN G8.1	VARIOLA VIRUS	3-30								
P3LA_BYDV	LARGE T ANTIGEN	BUDGERIGAR FLEDGLING DISEASE VIRUS	391-318								
P3LA_POVBO	LARGE T ANTIGEN	BOVINE POLYOMAVIRUS	502-537								
P3LA_POVHA	LARGE T ANTIGEN	HAMSTER POLYOMAVIRUS	517-631								
P3LA_POVLY	LARGE T ANTIGEN	LYMPHOTROPIC POLYOMAVIRUS	224-238	616-644							
P3LA_POVMJ	LARGE T ANTIGEN	MOUSE POLYOMAVIRUS (STRAIN J)	513-540								
P3LA_POVMA	LARGE T ANTIGEN	MOUSE POLYOMAVIRUS (STRAIN A2)	511-538								
P3LA_POVSC	LARGE T ANTIGEN	MOUSE POLYOMAVIRUS (STRAIN CRAWFORD SMALL-PLAQUE)	504-535								
P3LA_NPVAC	TRANS-ACT TRANS REG PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	497-434	498-533	532-559						
P3LA_NPVBM	TRANS-ACT TRANS REG PROTEIN	BOMBYX MORI NUCLEAR POLYHEDROSIS VIRUS	412-439	494-518	537-564						
P3LA_NPVOP	TRANS-ACT TRANS REG PROTEIN	OPGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	512-534								
P3LA_EBV	LARGE TEGUMENT PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	143-172	1215-1242	1324-1351	1376-1403					
P3LA_HCMVA	PROBABLE LARGE TEGUMENT PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	1231-1281	1288-1329							
P3LA_HSV11	LARGE TEGUMENT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	667-694	1073-1110							
P3LA_HSVG2	LARGE TEGUMENT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN G8)	102-129	220-261	347-411	962-993	1092-1101	1661-1688	1884-1911		
P3LA_HSVEB	LARGE TEGUMENT PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN ABAP)	228-256	366-393	385-1233						
P3LA_HSVSA	PROBABLE LARGE TEGUMENT PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	524-607	677-760	777-814	846-898	949-966	995-1017	1467-1497	2102-2135	
P3LA_VZVD	LARGE TEGUMENT PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	1121-1158	1579-1609							
P3LA_ADE07	DNA TERMINAL PROTEIN	HUMAN ADENOVIRUS TYPE 7	175-413								
P3LA_AVI34	TRANSFORMING PROTEIN 34.7	AVIAN REticuloendotheliosis virus strain	302-336								
P3OP1_SPVKA	DNA TOPOISOMERASE I	SHOPE FIBROMA VIRUS (STRAIN KASZA)	38-43	132-176							
P3OP1_VACCV	DNA TOPOISOMERASE I	VACCINIA VIRUS	38-43								
P3OP1_VARV	DNA TOPOISOMERASE I	VARIOLA VIRUS	38-43								
P3OP2_ASFWA	DNA TOPOISOMERASE II	AFRICAN SWINE FEVER VIRUS (ISOLATE MALAWI LIL 20/1)	902-936								
P3TIF_HSVA1	TRANSLATION FACTOR	HERPESVIRUS ATELES	116-143								
P3TIF_HSVSA	TRANSLATION FACTOR	HERPESVIRUS SAIMIRI (STRAIN 11)	128-157								
P4A5_EBV	VIRION PROTEIN BBRF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	115-142	333-360	342-369						
P4A5_HSV11	VIRION PROTEIN UL6	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	586-611								
P4A5_HSVEB	VIRION GENE 54 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN ABAP)	640-667								
P4A5_HSVSA	VIRION GENE 43 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	15-42	102-128	168-402						
P4A5_HCMVA	HYPOTHETICAL PROTEIN UL8	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	6-47								
P4A11_EBV	HYPOTHETICAL PROTEIN BBLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	15-42								
P4A13_HCMVA	HYPOTHETICAL PROTEIN UL13	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	347-376								
P4A15_HSVEB	HYPOTHETICAL GENE 48 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN ABAP)	247-286								
P4A15_VZVD	HYPOTHETICAL GENE 48 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	64-101								
P4A16_HCMVA	HYPOTHETICAL PROTEIN UL18	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	81-112								
P4A18_HCMVA	HYPOTH PROTEIN UL18 PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	34-61								
P4A21_HSVEB	GENE 49 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN ABAP)	44-71								
P4A21_VZVD	GENE 54 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	380-407								
P4A23_HSVEB	VIRION GENE 19 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	34-61	204-231	342-369						
P4A31_HCMVA	HYPOTHETICAL PROTEIN UL31	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	161-194	334-384							
P4A33_HSVEB	MAJOR ENVELOPE GLYCOPROTEIN 100	EQUINE HERPESVIRUS TYPE 1	145-175								
P4A33_HSV11	VIRION PROTEIN UL34	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	116-143								
P4A34_HSVEB	GENE 67 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	208-235								
P4A34_VZVD	VIRION GENE 34 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	113-139								
P4A35_HCMVA	HYPOTHETICAL PROTEIN UL35	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	535-563								

PEGENE	(All Viruses (as herpesviruses))								
FILE NAME	VIRUS	AREA 1	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
PUL37_HSV1	PROTEIN UL37	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	478-497	853-864					
PUL37_HSV2B	GENE 37 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	715-749	982-1014					
PUL37_HSV2A	GENE 01 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	111-45	603-737					
PUL37_VZV0	GENE 37 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	107-134	415-512	718-746	976-1003			
PUL37_VZV0	POST BRITOMY VIRION PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	130-164						
PUL37_HSV11	DNA-BINDING PROTEIN UL37	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	131-158						
PUL37_VZV0	GENE 37 NEUROCYTE PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	118-156	112-149	763-799	997-1031			
PUL37_HCMVA	PROTEIN UL37	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	114-148	408-445					
PUL37_HSV11	VIRION PROTEIN UL37	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	481-513						
PUL37_HSV1F	VIRION PROTEIN UL37	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN F)	488-511						
PUL37_HSV2I	97 KD ALPHA TRANS-INDUCING PROTEIN	EQUINE HERPESVIRUS TYPE 4	196-217						
PUL36_HCMVA	PROTEIN UL36	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	139-186						
PUL10_EBV	DNA REPLICATION PROTEIN BALF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	185-211	787-819					
PUL10_HSV2B	DNA REPLICATION PROTEIN UL10	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	193-238	943-976					
PUL33_HSV2A	PROBABLE DNA REPLICATION PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	136-157						
PUL33_VZV0	PROBABLE DNA REPLICATION PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	301-337						
PUL39_HCMVA	HYPOTHETICAL PROTEIN UL39	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	24-101						
PUL36_HCMVA	PROBABLE DNA REPLICATION PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	83-92						
PUL35_HSV2A	UL35 GLYCOPROTEIN PRECURSOR	HERPESVIRUS SAIMIRI (STRAIN 11)	2-33						
PUL34_HCMVA	HYPOTHETICAL GENE 34 PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	0-30						
PUL37_EBV	HYPOTHETICAL PROTEIN UL34	EPSTEIN-BARR VIRUS (STRAIN B95-8)	435-79						
PUL37_HSV2U	HYPOTHETICAL PROTEIN PCNF1	HERPESVIRUS SAIMIRI (STRAIN U502)	469-438						
PUL37_HSV2A	HYPOTHETICAL PROTEIN 3R	HERPESVIRUS SAIMIRI (STRAIN 11)	1534-563	736-768					
PUL36_HCMVA	PROBABLE DNA REPLICATION PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	582-609						
PUL35_HCMVA	HYPOTHETICAL GENE 35 PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	2-33						
PUL35_HSV2A	HYPOTHETICAL GENE 31 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	03-122						
PUL37_HCMVA	PROTEIN UL37	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	28-53	114-141					
PUL37_HSV2U	HYPOTHETICAL PROTEIN UL37	HERPESVIRUS SAIMIRI (STRAIN U502)	37-71						
PUL37_HSV2U	HYPOTHETICAL PROTEIN 13R	HERPESVIRUS SAIMIRI (STRAIN U502)	75-100	180-234					
PUL34_HCMVA	VIRION PROTEIN UL34	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	4-31	403-437					
PUL39_HCMVA	HYPOTHETICAL PROTEIN UL119	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	133-78						
PUL35_HCMVA	HYPOTHETICAL PROTEIN UL139	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	90-134						
PUNC_HSV2A	UNCHARACTERIZED PROTEIN (STRAIN 11)	HERPESVIRUS SAIMIRI (STRAIN 11)	135-176						
PUNC_BPVA	UNCHARACTERIZED PROTEIN	SHOPE FIBROMA VIRUS (STRAIN KASZA)	81-115						
PUNC_VACCC	UNCHARACTERIZED GLYCOPROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	85-118	128-154					
PUNC_VACCW	UNCHARACTERIZED GLYCOPROTEIN	VACCINIA VIRUS (STRAIN WR)	11-14	128-156					
PUNC_VARV	UNCHARACTERIZED GLYCOPROTEIN	VARIOLA VIRUS	85-118						
PU500_HCMVA	HYPOTHETICAL PROTEIN HCMV25	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	280-9						
PUR14_HCMVA	HYPOTHETICAL PROTEIN HCMV14	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	177-208						
PUR10_HCMVA	HYPOTHETICAL PROTEIN HCMV10	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	191-218						
PV131_ASFL5	L5 131-1 PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN L83II)	2-29						
PV133_ALMVL5	133 KD PROTEIN	ALFALFA MOSAIC VIRUS (STRAIN 425 / ISOLATE LEIDEN)	702-729						
PV135_ASFL5	L5 135 PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN L83II)	2-29						
PV14K_TVWL	14 KD PROTEIN	TOBACCO ATTLE VIRUS (STRAIN PLB)	59-86						
PV14_NPVAC	HELICASE	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	496-540	945-973					
PV16K_TVWS	16 KD PROTEIN	TOBACCO ATTLE VIRUS (STRAIN PAO)	76-113						
PV1A_BBMV	1A PROTEIN	BROAD BEAN MOTTLE VIRUS	237-54	718-737	840-868				
PV1A_BMV	1A PROTEIN	BROME MOSAIC VIRUS	232-59	584-611	814-863	892-919			
PV1A_CCMV	1A PROTEIN	COWPEA CHLOROTIC MOTTLE VIRUS	240-278						
PV1A_CMVFN	1A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN FNY)	11-38						
PV1A_CMVO	1A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN O)	11-38	864-902					
PV1A_CMVQ	1A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN Q)	11-38						
PV1A_PSVJ	1A PROTEIN	PEANUT STUNT VIRUS (STRAIN J)	4-38	373-399					
PV1A_TAV	1A PROTEIN	TOMATO ASPERMY VIRUS	11-38	371-398	776-803	857-884			
PV1K_NPVAC	21 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	4-31						
PV29K_PSBV	29.8 KD PROTEIN	PEA EARLY BROWNING VIRUS	106-139						
PV29K_TVWV	29 KD PROTEIN	TOBACCO ATTLE VIRUS	178-197						

PCGENE	107:178:4	All Viruses (no bacteriophages)									
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PV29K_TRVTC	29 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN TCM)	48-75								
PV2A_BBMV	2A PROTEIN	BROAD BEAN MOTTLE VIRUS	301-328								
PV2A_CCMV	2A PROTEIN	COWPEA CHLOROTIC MOTTLE VIRUS	178-205								
PV2A_CMVFN	2A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN FNY)	792-819								
PV2A_PSVJ	2A PROTEIN	PEANUT STUNT VIRUS (STRAIN J)	325-352	717-751							
PV2A_TAV	2A PROTEIN	TOMATO ASPERMY VIRUS	313-340	722-756							
PV30K_HCMVE	30 KD MAJOR EARLY PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN EISENHARDT)	194-221								
PV30K_TRVTC	29.1 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN TCM)	130-160								
PV33P_ADE41	33 KD PHOSPHOPROTEIN	HUMAN ADENOVIRUS TYPE 41	15-42								
PV362_ASFB7	K'362 PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	75-102								
PV363_ASFB7	D'363 PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	3-30	172-199							
PV3A_BMV	3A PROTEIN	BROME MOSAIC VIRUS	11-38								
PV3A_CMVFN	3A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN FNY)	222-252								
PV3A_CMVM	3A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN M)	217-252								
PV3A_CMVO	3A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN O)	222-253								
PV3A_CMVY	3A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN Y)	222-253								
PV3A_IBVB	3A PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	25-57								
PV3A_IBVUS	3A PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN US/181/66)	29-56								
PV3B_IBVB	3B PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	6-33								
PV50K_BYDVP	50 KD PROTEIN	BARLEY YELLOW DWARF VIRUS (ISOLATE PAV)	119-146								
PV51K_BWYVF	51 KD PROTEIN	BEET WESTERN YELLOWS VIRUS (ISOLATE FL-1)	113-147	424-451							
PV51K_BWYVG	51 KD PROTEIN	BEET WESTERN YELLOWS VIRUS (ISOLATE GDI)	113-147	424-451							
PV56K_PLRV1	56 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN 1)	124-151	438-472							
PV56K_PLRVW	56 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN)	124-151	438-477							
PV58K_BSMV	58 KD PROTEIN	BARLEY STRIPE MOSAIC VIRUS	128-155								
PV70K_PLRV1	69.7 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN 1)	110-140								
PV70K_PLRVW	69.7 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN)	110-140								
PV90K_AMVLE	90 KD PROTEIN	ALFALFA MOSAIC VIRUS (STRAIN 425/ISOLATE LEIDEN)	107-134								
PVA06_VACCC	PROTEIN A6	VACCINIA VIRUS (STRAIN COPENHAGEN)	157-216	250-277	283-310	314-355					
PVA06_VACCV	PROTEIN A6	VACCINIA VIRUS (STRAIN WR)	156-215	249-276	282-309	313-354					
PVA06_VARV	PROTEIN A6	VARIOLA VIRUS	157-216	250-277	283-310	314-355					
PVA08_VACCC	PROTEIN A8	VACCINIA VIRUS (STRAIN COPENHAGEN)	176-206								
PVA08_VARV	PROTEIN A8	VARIOLA VIRUS	176-206								
PVA09_VARV	PROTEIN A9	VARIOLA VIRUS	60-95								
PVA11_VACCC	PROTEIN A11	VACCINIA VIRUS (STRAIN COPENHAGEN)	219-283								
PVA11_VARV	PROTEIN A11	VARIOLA VIRUS	220-284								
PVA18_VARV	34 KD ABORTIVE LATE PROTEIN	VARIOLA VIRUS	440-467								
PVA20_VACCC	PROTEIN A20	VACCINIA VIRUS (STRAIN COPENHAGEN)	8-67	330-357							
PVA20_VARV	PROTEIN A20	VARIOLA VIRUS	8-67	330-357							
PVA22_VACCC	PROTEIN A22	VACCINIA VIRUS (STRAIN COPENHAGEN)	45-72								
PVA22_VARV	PROTEIN A22	VARIOLA VIRUS	56-83								
PVA23_VACCC	PROTEIN A23	VACCINIA VIRUS (STRAIN COPENHAGEN)	95-144								
PVA23_VARV	PROTEIN A23	VARIOLA VIRUS	95-144								
PVA28_VACCV	PROTEIN A28	VACCINIA VIRUS (STRAIN WR)	22-49								
PVA28_VARV	PROTEIN A28	VARIOLA VIRUS	22-49								
PVA30_VACCV	PROTEIN A30	VACCINIA VIRUS (STRAIN WR)	12-55								
PVA31_VACCC	PROTEIN A31	VACCINIA VIRUS (STRAIN COPENHAGEN)	88-115								
PVA31_VARV	PROTEIN A31	VARIOLA VIRUS	88-122								
PVA34_VACCC	PROTEIN A34	VACCINIA VIRUS (STRAIN COPENHAGEN)	87-114								
PVA34_VACCV	PROTEIN A34	VACCINIA VIRUS (STRAIN WR)	87-114								
PVA34_VARV	PROTEIN A34	VARIOLA VIRUS	87-114								
PVA36_VACCV	PROTEIN A36 PRECURSOR	VACCINIA VIRUS (STRAIN WR)	120-155								
PVA36_VARV	PROTEIN A36 PRECURSOR	VARIOLA VIRUS	127-154								
PVA38_VACCC	PROTEIN A38	VACCINIA VIRUS (STRAIN COPENHAGEN)	44-81								
PVA38_VACCV	PROTEIN A38	VACCINIA VIRUS (STRAIN WR)	44-81								
PVA38_VARV	PROTEIN A38	VARIOLA VIRUS	44-91								
PVA39_VACCC	PROTEIN A39	VACCINIA VIRUS (STRAIN COPENHAGEN)	37-71	155-182							

FCGENE	107s17Bs4	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS	79-109	193-220							
PVA39_VACCV	PROTEIN A39	VACCINIA VIRUS (STRAIN WR)	145-172								
PVA43_VACCC	PROTEIN A43	VACCINIA VIRUS (STRAIN COPENHAGEN)	145-172								
PVA43_VACCV	PROTEIN A43	VACCINIA VIRUS (STRAIN WR)	146-173								
PVA43_VARV	PROTEIN A43	VARIOLA VIRUS	143-184								
PVA47_VACCC	PROTEIN A47	VACCINIA VIRUS (STRAIN COPENHAGEN)	143-184								
PVA47_VACCV	PROTEIN A47	VACCINIA VIRUS (STRAIN WR)	142-184								
PVA47_VARV	PROTEIN A47	VARIOLA VIRUS	61-91								
PVA49_VACCC	PROTEIN A49	VACCINIA VIRUS (STRAIN COPENHAGEN)	61-91								
PVA49_VACCV	PROTEIN A49	VACCINIA VIRUS (STRAIN WR)	61-91								
PVA49_VARV	PROTEIN A49	VARIOLA VIRUS	55-82	126-156	435-462						
PVA55_VACCC	PROTEIN A55	VACCINIA VIRUS (STRAIN COPENHAGEN)	55-82	126-156	435-462						
PVA55_VACCV	PROTEIN A55	VACCINIA VIRUS (STRAIN WR)	23-49								
PVAL1_BCTV	A11 PROTEIN	BEET CURLY TOP VIRUS	79-106								
PVAL1_CLVK	A11 PROTEIN	CASSAVA LATENT VIRUS (STRAIN WEST KENYAN 844)	79-106								
PVAL1_CLVN	A11 PROTEIN	CASSAVA LATENT VIRUS (STRAIN NIGERIAN)	101-138								
PVAL1_SLCV	A11 PROTEIN	SQUASH LEAF CURL VIRUS	79-129								
PVAL1_TYLCV	A11 PROTEIN	TOMATO YELLOW LEAF CURL VIRUS	22-70	93-129							
PVAT_CAMVC	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	22-70								
PVAT_CAMVD	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN DA)	22-70	93-129							
PVAT_CAMVE	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN BBC)	22-70	93-129							
PVAT_CAMVN	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY8153)	22-70	93-129							
PVAT_CAMVP	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN PV1447)	22-70	93-130							
PVAT_CAMVS	APHID TRANSMISSION PROTEIN		22-70								
PVAT_CAMVW	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN W260)	76-76								
PVAT_CERV	APHID TRANSMISSION PROTEIN	CARNATION ETCHED RING VIRUS	102-138								
PVAT_PVYO	APHID TRANSMISSION PROTEIN	POWOWT MOSAIC VIRUS (STRAIN DX5)	52-82	101-130							
PVB01_VACCV	PROTEIN B1	VACCINIA VIRUS (STRAIN WR)	108-135								
PVB04_VACCC	PROTEIN B4	VACCINIA VIRUS (STRAIN COPENHAGEN)	92-123	182-211	326-353	326-361					
PVB04_VACCV	PROTEIN B4	VACCINIA VIRUS (STRAIN WR)	92-123	182-211	326-353	326-361					
PVB04_VARV	PROTEIN B4	VARIOLA VIRUS	89-137	182-211	326-353	326-361					
PVB05_VACCC	PLAQUE-SIZE / HOST RANGE PRO PLEC	VACCINIA VIRUS (STRAIN LC16M0)	254-284								
PVB05_VACCD	PLAQUE-SIZE / HOST RANGE PRO PLEC	VACCINIA VIRUS (STRAIN COPENHAGEN)	254-284								
PVB05_VACCE	PLAQUE-SIZE / HOST RANGE PRO PLEC	VACCINIA VIRUS (STRAIN LISTER)	254-284								
PVB05_VACCL	PLAQUE-SIZE / HOST RANGE PRO PLEC	VACCINIA VIRUS (STRAIN WR)	254-284								
PVB05_VACCV	PLAQUE-SIZE / HOST RANGE PRO PLEC	VACCINIA VIRUS (STRAIN WR)	28-62								
PVB07_VACCV	PROTEIN B7 PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	26-53								
PVB08_VACCC	PROTEIN B8 PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	26-53								
PVB08_VACCV	PROTEIN B8 PRECURSOR	VACCINIA VIRUS (STRAIN WR)	27-54								
PVB11_VACCC	PROTEIN B11	VACCINIA VIRUS (STRAIN COPENHAGEN)	5-38								
PVB11_VACCV	PROTEIN B11	VACCINIA VIRUS (STRAIN WR)	113-140								
PVB16_COWPX	IL-1 BIND PRO PRECURSOR	COWPOX VIRUS	238-285								
PVB17_VACCC	PROTEIN B17	VACCINIA VIRUS (STRAIN COPENHAGEN)	258-285								
PVB17_VACCV	PROTEIN B17	VACCINIA VIRUS (STRAIN WR)	337-373								
PVB18_VACCC	PROTEIN B18	VACCINIA VIRUS (STRAIN COPENHAGEN)	337-373								
PVB18_VACCV	PROTEIN B18	VACCINIA VIRUS (STRAIN WR)	337-378								
PVB18_VARV	PROTEIN B18	VARIOLA VIRUS	182-212								
PVB19_VACCC	SURFACE ANTIGEN 5 PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	180-210								
PVB19_VACCD	SURFACE ANTIGEN 5 PRECURSOR	VACCINIA VIRUS (STRAIN DALEN I)	180-210								
PVB19_VACCV	SURFACE ANTIGEN 5 PRECURSOR	VACCINIA VIRUS (STRAIN WR)	180-210								
PVB19_VARV	SURFACE ANTIGEN 5 PRECURSOR	VARIOLA VIRUS	44-82								
PVB20_VACCC	PROTEIN B20	VACCINIA VIRUS (STRAIN COPENHAGEN)	64-91								
PVB21_VACCV	PROTEIN B21	VACCINIA VIRUS (STRAIN WR)	120-147	248-275							
PVBL1_BCMV	BL1 PROTEIN	BEAN GOLDEN MOSAIC VIRUS	118-145								
PVBL1_CLVK	BL1 PROTEIN	CASSAVA LATENT VIRUS (STRAIN WEST KENYAN 844)	118-145								
PVBL1_CLVN	BL1 PROTEIN	CASSAVA LATENT VIRUS (STRAIN NIGERIAN)	120-147								
PVBL1_PVMV	BL1 PROTEIN	POTATO YELLOW MOSAIC VIRUS (ISOLATE VENEZUELA)	403-432								
PVC02_VACCC	PROTEIN C2	VACCINIA VIRUS (STRAIN COPENHAGEN)	41-71	405-432							
PVC02_VACCV	PROTEIN C2	VACCINIA VIRUS (STRAIN WR)									

PCGENE (07nl7b.t	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
TITLE NAME	VIRUS	309-336	484-511							
PVC04_SFVKA	SHOPE FIBROMA VIRUS (STRAIN KASZA)	12-46								
PVC04_VACCC	VACCINIA VIRUS (STRAIN COPENHAGEN)	12-46								
PVC04_VACCV	VACCINIA VIRUS (STRAIN WR)	12-46								
PVC04_VAVV	VARIOLA VIRUS	12-46								
PVC08_SFVKA	SHOPE FIBROMA VIRUS (STRAIN KASZA)	85-113	132-179							
PVC08_VACCC	VACCINIA VIRUS (STRAIN COPENHAGEN)	38-65								
PVC08_VACCV	VACCINIA VIRUS (STRAIN WR)	38-65								
PVC08_VAVV	VARIOLA VIRUS	38-66								
PVC07_VACCV	VACCINIA VIRUS (STRAIN WR)	86-111								
PVC07_VAVV	VARIOLA VIRUS	86-111								
PVC09_VACCC	VACCINIA VIRUS (STRAIN COPENHAGEN)	42-69	82-116	178-205	232-259	289-325	375-405			
PVC09_VACCV	VACCINIA VIRUS (STRAIN WR)	42-69	82-116	178-205	232-259	289-323	375-405			
PVC09_VAVV	VARIOLA VIRUS	136-160								
PVC10_VACCC	VACCINIA VIRUS (STRAIN COPENHAGEN)	136-163								
PVC10_VACCV	VACCINIA VIRUS (STRAIN WR)	136-163								
PVC10_VAVV	VARIOLA VIRUS	299-326								
PVC13_SFVKA	SHOPE FIBROMA VIRUS (STRAIN KASZA)	3-30	39-66	117-182	206-240					
PVC13_VACCC	VACCINIA VIRUS (STRAIN COPENHAGEN)	111-152								
PVC13_VACCV	VACCINIA VIRUS (STRAIN COPENHAGEN)	40-74								
PVC18_VACCC	SHOPE FIBROMA VIRUS (STRAIN KASZA)	34-97								
PVC18_SFVKA	VACCINIA VIRUS (STRAIN COPENHAGEN)	72-99								
PVC18_VACCC	VARIOLA VIRUS	299-326								
PVC22_VAVV	EPSTEIN-BARR VIRUS (STRAIN B95-8)	847-874								
PVC43_EBV	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	136-190	335-382							
PVC43_HSV6U	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	769-799								
PVC43_HSV6A	HUMAN ADENOVIRUS TYPE 2	133-165	199-248							
PVC03_NPVAC	MINOR CORE PROTEIN	88-115								
PVC03_ADE03	HUMAN ADENOVIRUS TYPE 5	87-114								
PVC03_FOWPI	FOWLPOX VIRUS (STRAIN FP-1)	6-33	184-211	321-348						
PVD05_VACCC	VACCINIA VIRUS (STRAIN COPENHAGEN)	240-267	333-360							
PVD05_VACCV	VACCINIA VIRUS (STRAIN WR)	240-267								
PVD05_VAVV	VARIOLA VIRUS	240-267								
PVD09_VACCC	VACCINIA VIRUS (STRAIN COPENHAGEN)	123-150								
PVD09_VACCV	VACCINIA VIRUS (STRAIN WR)	123-150								
PVD09_VAVV	VARIOLA VIRUS	123-180								
PVD10_SFVKA	SHOPE FIBROMA VIRUS (STRAIN KASZA)	18-52								
PVD10_CEAV	CARNATION ETCHED RING VIRUS	2-35								
PVE05_VAVV	VARIOLA VIRUS	232-322								
PVE06_VACCC	VACCINIA VIRUS (STRAIN COPENHAGEN)	89-116	437-464							
PVE06_VACCV	VACCINIA VIRUS (STRAIN WR)	89-116	437-464							
PVE06_VAVV	VARIOLA VIRUS	89-116	367-394	437-464						
PVE1_HPV11	E1 PROTEIN	60-87								
PVE1_HPV2A	E1 PROTEIN	21-48								
PVE1_HPV33	E1 PROTEIN	180-207								
PVE1_HPV39	E1 PROTEIN	103-130								
PVE1_HPV41	E1 PROTEIN	55-89								
PVE1_HPV42	E1 PROTEIN	25-59								
PVE1_HPV43	E1 PROTEIN	146-173								
PVE1_HPV57	E1 PROTEIN	21-48								
PVE24_NPVAC	EARLY 25.9 KD PROTEIN	72-113								
PVE2_CRPVK	PROBABLE E2 PROTEIN	5-34								
PVE2_HPV05	E2 PROTEIN	17-51								
PVE2_HPV11	E2 PROTEIN	157-184	334-361							
PVE2_HPV16	E2 PROTEIN	61-105	312-342							
PVE2_HPV18	E2 PROTEIN	313-340								
PVE2_HPV1A	E2 PROTEIN	159-186								
PVE2_HPV2A	E2 PROTEIN	159-193								
PVE2_HPV33	E2 PROTEIN	304-331								

PGENE	10%17Blo4	All Viruses (no bacteriophages)									
FILE NAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PVE1_HPV35	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 35	158-192	327-354							
PVE1_HPV39	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 39	7-34	323-357							
PVE1_HPV47	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 47	117-51	148-175	276-303						
PVE1_HPV51	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 51	137-184								
PVE1_HPV57	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 57	186-193								
PVE1_HPV58	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	2-36	309-336							
PVE1_HPV6B	PROBABLE E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6B	117-51								
PVE1_PAPVB	PROBABLE E1 PROTEIN	EUROPEAN ELK PAPILLOMAVIRUS	126-160								
PVE1_PCPV1	E1 PROTEIN	PYGMY CHIMPANZEE PAPILLOMAVIRUS TYPE 1	267-294	323-361							
PVE4_HPV03	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 3	202-229								
PVE4_HPV11	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	81-108								
PVE4_HPV16	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	66-93								
PVE4_HPV18	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 18	59-86								
PVE4_HPV31	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31	75-102								
PVE4_HPV41	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	61-97								
PVE4_HPV5B	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 5B	201-229								
PVE4_HPV6B	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	30-60								
PVE4A_HPV6B	PROBABLE E4A PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6B	30-60								
PVE4A_HPV6C	PROBABLE E4A PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6C	30-60								
PVE5_HPV33	PROBABLE E5 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	27-54								
PVE5_HPV5B	PROBABLE E5 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 5B	11-41								
PVE5_PCPV1	E5 PROTEIN	PYGMY CHIMPANZEE PAPILLOMAVIRUS TYPE 1	35-62								
PVE6_HPV18	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 18	75-102								
PVE6_HPV31	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31	69-96								
PVE6_HPV33	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	71-101								
PVE6_HPV41	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	118-146								
PVE6_HPV43	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 43	75-102								
PVE6_HPV51	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 51	72-99								
PVE6_HPV6B	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6B 180	71-103								
PVE94_NPVAC	EARLY 94 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	820-847								
PVEF_BVTN	VIRAL DNA-BINDING FACTOR	TRICHOPLUSIA NI GRANULOSIS VIRUS	411-438								
PVENV_BPVII	ENVELOPE GLYCOPROTEIN PRECURSOR	BOVINE PAPILLOMA VIRUS TYPE 1 (ISOLATE 1041)	1118-1146								
PVENV_ELV	PROBABLE ENVELOPE PROTEIN	EQUINE ARTERITIS VIRUS	1206-1247								
PVENV_THDGV	ENVELOPE GLYCOPROTEIN PRECURSOR	THOGOTO VIRUS	3113-3147								
PVF01_VACCC	PROTEIN F1	VACCINIA VIRUS (STRAIN COPENHAGEN)	71-110	185-212							
PVF01_VACCV	PROTEIN F1	VACCINIA VIRUS (STRAIN WR)	71-110	185-212							
PVF05_VACCV	14 KD MAJOR MEMBRANE PRO PRECURSOR	VACCINIA VIRUS (STRAIN L-IVP)	13-40								
PVF05_VACCV	14 KD MAJOR MEMBRANE PRO PRECURSOR	VACCINIA VIRUS (STRAIN WR)	13-40								
PVF06_VAIV	PROTEIN F6	VARIOLA VIRUS	10-44								
PVF11_VACCC	PROTEIN F11	VACCINIA VIRUS (STRAIN COPENHAGEN)	274-321								
PVF11_VACCI	PROTEIN F11	VACCINIA VIRUS (STRAIN L-IVP)	270-317								
PVF11_VAIV	PROTEIN F11	VARIOLA VIRUS	274-321								
PVF12_VACCC	PROTEIN F12	VACCINIA VIRUS (STRAIN COPENHAGEN)	10-37	113-140	354-381						
PVF12_VACCI	PROTEIN F12	VACCINIA VIRUS (STRAIN L-IVP)	10-37	113-140	354-381						
PVF12_VAIV	PROTEIN F12	VARIOLA VIRUS	10-37	202-236	354-381						
PVF16_VACCC	PROTEIN F16	VACCINIA VIRUS (STRAIN COPENHAGEN)	35-62	132-179							
PVF16_VACCI	PROTEIN F16	VACCINIA VIRUS (STRAIN L-IVP)	35-62	132-179							
PVF16_VAIV	PROTEIN F16	VARIOLA VIRUS	35-62	140-179							
PVFP4_FOWPV	PROTEIN FP4	FOWLPOX VIRUS	146-173								
PVFUS_ONFNZ	10 KD FUSION PROTEIN	ORF VIRUS (STRAIN NZ2)	59-86								
PVFUS_VACCC	14 KD FUSION PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	37-64								
PVFUS_VACCV	42 KD FUSION PROTEIN	VACCINIA VIRUS (STRAIN WR)	37-64								
PVG01_VACCC	PROTEIN G1	VACCINIA VIRUS (STRAIN COPENHAGEN)	233-253	301-333							
PVG01_VACCV	PROTEIN G1	VACCINIA VIRUS (STRAIN WR)	184-191	240-274							
PVG01_VAIV	PROTEIN G1	VARIOLA VIRUS	225-232	301-333							
PVG02_VACCV	15 KDA-TYR/THR PROTEIN	VACCINIA VIRUS (STRAIN WR)	96-123								
PVG02_VAIV	15 KDA-TYR/THR PROTEIN	VARIOLA VIRUS	96-123								

PCGENE	107s178rf	All Viruses (no bacteriophages)									
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVG01_HSVEB	GENE 1 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	146-176								
PVG01_HSVEK	GENE 1 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A)	146-176								
PVG05_VACCC	PROTEIN G5	VACCINIA VIRUS (STRAIN COPENHAGEN)	48-75	131-161	225-289	335-389					
PVG05_VARV	PROTEIN G5	VARIOLA VIRUS	48-75	124-161	255-289	335-389					
PVG07_HSVI1	HYPOTH GENE 7 MEMB PRO	ICTALURID HERPESVIRUS 1	71-98								
PVG09_VACCC	PROTEIN F1	VACCINIA VIRUS (STRAIN COPENHAGEN)	308-338								
PVG09_VACCV	PROTEIN F1	VACCINIA VIRUS (STRAIN WR)	271-301								
PVG09_VARV	PROTEIN F1	VARIOLA VIRUS	308-338								
PVG13_SPVIR	GENE 13 PROTEIN	SPIROPLASMA VIRUS SPVI-R8A2 B	11-45								
PVG17_HSVI1	HYPOTHETICAL GENE 17 PROTEIN	ICTALURID HERPESVIRUS 1	177-204								
PVG18_HSVI1	HYPOTHETICAL GENE 18 PROTEIN	ICTALURID HERPESVIRUS 1	174-208								
PVG1_SPVIR	CAPSID PROTEIN	SPIROPLASMA VIRUS SPVI-R8A2 B	260-287								
PVG1_SPV4	CAPSID PROTEIN	SPIROPLASMA VIRUS 4	287-314	383-410							
PVG22_HSVI1	HYPOTHETICAL GENE 22 PROTEIN	ICTALURID HERPESVIRUS 1	373-400	581-622	668-705	766-824					
PVG24_HSVI1	HYPOTHETICAL GENE 24 PROTEIN	ICTALURID HERPESVIRUS 1	31-58								
PVG28_HSVI1	HYPOTHETICAL GENE 28 PROTEIN	ICTALURID HERPESVIRUS 1	253-290	497-528							
PVG2R_AMEPV	HYPOTHETICAL G2R PROTEIN	AMSACTA MOOREI ENTOMOPOXVIRUS	33-64	91-118							
PVG2_SPVIR	GENE 2 PROTEIN	SPIROPLASMA VIRUS SPVI-R8A2 B	285-326								
PVG2_SPV4	GENE 2 PROTEIN	SPIROPLASMA VIRUS 4	146-173	175-205	262-310						
PVG34_HSVI1	HYPOTHETICAL GENE 34 PROTEIN	ICTALURID HERPESVIRUS 1	95-122								
PVG37_HSVI1	HYPOTHETICAL GENE 37 PROTEIN	ICTALURID HERPESVIRUS 1	442-469								
PVG39_HSVI1	HYPOTHETICAL GENE 39 PROTEIN	ICTALURID HERPESVIRUS 1	651-678	1088-1115							
PVG3L_AMEPV	HYPOTHETICAL G3L PROTEIN	AMSACTA MOOREI ENTOMOPOXVIRUS	2-29								
PVG3_SPVIR	GENE 3 PROTEIN	SPIROPLASMA VIRUS SPVI-R8A2 B	15-49								
PVG3_SPV4	GENE 3 PROTEIN	SPIROPLASMA VIRUS 4	18-52	87-148							
PVG43_HSV8A	HYPOTHETICAL GENE 43 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	138-165								
PVG46_HSVI1	PROBABLE MAJOR GLYCOPROTEIN	ICTALURID HERPESVIRUS 1	142-169	346-373	897-924	973-1007					
PVG48_HSV8A	HYPOTHETICAL GENE 48 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	360-394								
PVG4R_AMEPV	G4R PROTEIN	AMSACTA MOOREI ENTOMOPOXVIRUS	4-31								
PVG4_SPVIR	GENE 4 PROTEIN	SPIROPLASMA VIRUS SPVI-R8A2 B	116-146								
PVG51_HSVI1	HYPOTH GENE 51 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1	34-61	87-114							
PVG53_HSV8A	HYPOTHETICAL GENE 53 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	47-74								
PVG56_HSVI1	HYPOTHETICAL GENE 56 PROTEIN	ICTALURID HERPESVIRUS 1	582-609								
PVG5_SPVIR	GENE 5 PROTEIN	SPIROPLASMA VIRUS SPVI-R8A2 B	65-92								
PVG5_SPV4	GENE 5 PROTEIN	SPIROPLASMA VIRUS 4	56-83								
PVG63_HSVI1	HYPOTHETICAL GENE 63 PROTEIN	ICTALURID HERPESVIRUS 1	550-584								
PVG64_HSVI1	HYPOTHETICAL GENE 64 PROTEIN	ICTALURID HERPESVIRUS 1	477-504								
PVG65_HSVI1	HYPOTHETICAL GENE 65 PROTEIN	ICTALURID HERPESVIRUS 1	1213-1254								
PVG66_HSVI1	HYPOTHETICAL GENE 66 PROTEIN	ICTALURID HERPESVIRUS 1	363-406								
PVG67_HSVI1	HYPOTHETICAL GENE 67 PROTEIN	ICTALURID HERPESVIRUS 1	1342-1369								
PVG68_HSVI1	HYPOTHETICAL GENE 68 PROTEIN	ICTALURID HERPESVIRUS 1	261-288								
PVG72_HSVI1	HYPOTHETICAL GENE 72 PROTEIN	ICTALURID HERPESVIRUS 1	447-481								
PVG75_HSVI1	HYPOTHETICAL GENE 75 PROTEIN	ICTALURID HERPESVIRUS 1	388-422								
PVG76_HSVI1	HYPOTHETICAL GENE 76 PROTEIN	ICTALURID HERPESVIRUS 1	200-227								
PVG7_SPV4	GENE 7 PROTEIN	SPIROPLASMA VIRUS 4	14-44								
PVGF1_IBVB	F1 PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS	1230-1260	2408-2435							
PVGL3_CVBF	E2 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN F15)	399-426	642-676	1022-1084	1278-1305					
PVGL3_CVBL9	E2 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN L9)	399-426		1022-1084	1278-1305					
PVGL3_CVBLY	E2 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN LY-138)	399-426	642-676	1022-1084	1278-1305					
PVGL3_CVBM	E2 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN MEBUS)	399-426	642-676	1022-1084	1278-1305					
PVGL3_CVBQ	E2 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN QUEBEC)	399-426	642-676	1022-1084	1278-1305					
PVGL3_CVBV	E2 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN VACCINE)	399-426	642-676	1022-1084	1278-1305					
PVGL3_CVH22	E2 GLYCOPROTEIN PRECURSOR	HUMAN CORONAVIRUS (STRAIN 229E)	770-797	809-875	1056-1112						
PVGL3_CVM4	E2 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN WILD TYPE 4)	643-684	1030-1092							
PVGL3_CVMA5	E2 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN A59)	36-63	591-632	978-1040						
PVGL3_CVMJC	E2 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN JHMV / VARIANT CL-2)	643-684	1030-1092							
PVGL3_CVMJH	E2 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN JHM)	502-543	889-951							

PCGENE	All Viruses (no bacteriophages)									
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PVGL3_CVPVS	E3 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN FS772/	69-110	692-733	1072-1145	1332-1389				
PVGL3_CVPVS	E3 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN MILLER	69-110	692-733	1069-1145	1353-1389				
PVGL3_CVPVA	E3 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN PUR46-	73-107	696-737	1067-1143	1351-1387				
PVGL3_CVPVA	E3 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN PURD	69-107	696-737	1067-1143	1351-1387				
PVGL3_CVPPU	E3 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN 86/13/7004 / BRITISH ISOLAT	468-509	843-921	1129-1165					
PVGL3_CVPPU	E3 GLYCOPROTEIN PRECURSOR	PORCINE RESPIRATORY CORONAVIRUS (STRAIN RM4)	468-509	843-921	1129-1165					
PVGL3_CVPRM	E3 GLYCOPROTEIN PRECURSOR	PORCINE RESPIRATORY CORONAVIRUS (STRAIN NEB7	469-107	690-731	1067-1143	1353-1387				
PVGL3_CVPRT	E3 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN NEB	66-103							
PVGL3_EBV	PROBABLE MEMBRANE GLYCOPROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	199-233	434-481	709-736	1072-1148	1336-1392			
PVGL3_FIPV	E3 GLYCOPROTEIN PRECURSOR	FELINE INFECTIOUS PERITONITIS VIRUS (STRAIN 79-1146)	809-836	876-903	1057-1091					
PVGL3_IBVB	E3 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	804-833	875-902	1036-1090					
PVGL3_IBVB	E3 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN D274)	809-836	876-903	1037-1091					
PVGL3_IBVK	E3 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN KB8522)	808-833	875-902	1036-1090					
PVGL3_IBVM	E3 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN M41)	808-833	875-902	1036-1090					
PVGL3_IBV	E3 GLYCOPROTEIN PRECURSOR	EPSTEIN-BARR VIRUS (STRAIN B95-8)	93-122	631-658						
PVGL3_IBV	GP110 PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	25-88	397-424	440-467	851-878				
PVGL3_MCMVA	GLYCOPROTEIN B PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	50-88	397-424	413-462	852-879				
PVGL3_MCMVT	GLYCOPROTEIN B PRECURSOR	BOVINE HERPESVIRUS TYPE 1	427-454							
PVGL3_HSVB1	GLYCOPROTEIN I PRECURSOR	BOVINE HERPESVIRUS TYPE 2 (STRAIN BNV)	447-474							
PVGL3_HSVB1	GLYCOPROTEIN L-1 PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (ISOLATE HV933A)	441-470	934-961						
PVGL3_HSVE1	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 4	486-513	616-643						
PVGL3_HSVEA	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB1)	443-470	934-961						
PVGL3_HSVEA	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	443-470	934-961						
PVGL3_HSVEB	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY D)	443-470	933-960						
PVGL3_HSVEL	GLYCOPROTEIN B PRECURSOR	HARLEY'S DISEASE HERPESVIRUS (STRAIN KB-18)	93-120	332-379						
PVGL3_HSVHD	GLYCOPROTEIN B PRECURSOR	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	381-408	441-475						
PVGL3_MCMVS	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	466-510							
PVGL3_HSV11	GLYCOPROTEIN C PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	466-510							
PVGL3_HSV1K	GLYCOPROTEIN C PRECURSOR	HERPES HERPESVIRUS TYPE 1	124-151							
PVGL3_HSVEB	GLYCOPROTEIN C PRECURSOR	EQUINE HERPESVIRUS TYPE 1	295-322							
PVGL3_VZVB	GLYCOPROTEIN OPV	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	295-322							
PVGL3_VZVS	GLYCOPROTEIN OPV	VARICELLA-ZOSTER VIRUS (STRAIN SCOTT)	111-148							
PVGL3_HSV2	GLYCOPROTEIN E PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2)	38-65	134-202	216-243	442-469	486-513			
PVGL3_BRSVA	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A51908)	38-65	134-202	216-243	444-471	488-515			
PVGL3_BRSVC	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN COPENHAGEN)	38-65	134-202	216-243	444-471	488-515			
PVGL3_BRSVK	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN 4594)	38-65	134-202	216-243	444-471	488-515			
PVGL3_CDVO	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN ONDERSTEPOORT)	232-293	340-367						
PVGL3_HRSVI	FUSION GLYCOPROTEIN PRECURSOR	CANINE DISTEMPER VIRUS (STRAIN 11317)	38-65	134-202	442-471	488-515				
PVGL3_HRSVA	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN 18537)	38-65	134-202	213-243	488-515				
PVGL3_HRSVL	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	38-65	134-202	216-243	444-471	488-515			
PVGL3_HRSVA	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP A / STRAIN LONG)	38-65	134-202	213-243	442-471	488-515			
PVGL3_HRSVA	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2-2)	38-65	134-202	213-243	442-471	488-515			
PVGL3_MRSVE	FUSION GLYCOPROTEIN PRECURSOR	MEASLES VIRUS (STRAIN EDMONSTON AND HALLE)	228-262							
PVGL3_MRSVF	FUSION GLYCOPROTEIN PRECURSOR	MEASLES VIRUS (STRAIN F-3-CA)	231-265							
PVGL3_MRSVY	FUSION GLYCOPROTEIN PRECURSOR	MEASLES VIRUS (STRAIN YAMAGATA-1)	228-262							
PVGL3_MUMPS	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN SBL-1)	20-54	447-486						
PVGL3_MUMSH	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	20-54	447-486						
PVGL3_MUMSK	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN RW)	20-54	447-486						
PVGL3_MUMSS	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN SBL)	131-178	426-511						
PVGL3_NDVA	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA-VICTORIA/32)	131-178	426-512						
PVGL3_NDVB	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C45)	131-178	426-512						
PVGL3_NDVHI	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN HERTS/33)	131-178	426-512						
PVGL3_NDVH4	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN B1-HITCHNER/47)	131-178	426-512						
PVGL3_NDVH4	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN ITALIEN/47)	131-178	426-512						
PVGL3_NDVI	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN LASOTA)	131-178	192-219	426-512					
PVGL3_NDVL	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN MIYADERA/51)	131-178	427-512						
PVGL3_NDVQ	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN QUEENSLAND/66)	131-178	433-512						
PVGL3_NDVT	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN TEXAS)	131-178	426-512						
PVGL3_NDVTG	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN TEXAS G B/48)	131-178	426-512						

FOCENE	1097a178x4	All Viruses (no bacteriophage)									
FILE NAME	PROTEIN	VIRUS	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA 2
PVGLF_NDVU	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN ULSTER67)	151-178	428-512							
PVGLF_PMDV	FUSION GLYCOPROTEIN PRECURSOR	PHOCINE DISTEMPER VIRUS	36-63	221-262	309-336						
PVGLF_PIIHC	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C39)	147-174	210-266							
PVGLF_PI2H	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 2 VIRUS	90-117	141-175	238-266	483-528					
PVGLF_PI2HG	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN GREER)	90-117	141-175	238-266	483-528					
PVGLF_PI2HT	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSHIBA)	90-117	141-175	238-266	483-528					
PVGLF_PI3B	FUSION GLYCOPROTEIN PRECURSOR	BOVINE PARAINFLUENZA 3 VIRUS	115-182	207-241	459-497						
PVGLF_PI3H4	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	115-182	207-241	457-495						
PVGLF_RNDK	FUSION GLYCOPROTEIN PRECURSOR	RINDERPEST VIRUS (STRAIN KABETE O)	224-265	458-485							
PVGLF_RNDL	FUSION GLYCOPROTEIN PRECURSOR	RINDERPEST VIRUS (STRAIN L)	224-265	458-506							
PVGLF_SEND5	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN Z / HOST MUTANTS)	122-149	211-245	480-507						
PVGLF_SENDF	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN FUSHIMI)	122-149	211-245	480-507						
PVGLF_SENDH	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN HARRIS)	122-149	211-245	480-507						
PVGLF_SENDJ	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN HVJ)	122-149	211-245	480-507						
PVGLF_SENDZ	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN Z)	122-149	211-245	480-507						
PVGLF_SV41	FUSION GLYCOPROTEIN PRECURSOR	SIMIAN VIRUS 41	144-185	241-269	459-496						
PVGLF_SV5	FUSION GLYCOPROTEIN PRECURSOR	SIMIAN VIRUS 5 (STRAIN W3)	137-171	417-444							
PVGLF_TKTV	FUSION GLYCOPROTEIN PRECURSOR	TURKEY LUNGTRACHEITIS VIRUS	124-161	193-200	457-484						
PVGLO_BEFV	SPIKE GLYCOPROTEIN PRECURSOR	BOVINE EPHEMERAL FEVER VIRUS	523-557								
PVGLO_BLSVC	MAJOR SURFACE GLYCOPROTEIN G	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN COPENHAGEN)	92-123								
PVGLO_HRSV1	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN 18537)	63-93								
PVGLO_HRSV4	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN RSB18957)	66-107								
PVGLO_HRSV5	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN RSB6190)	240-277								
PVGLO_HRSV8	MAJOR SURFACE GLYCOPROTEIN G	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN 8/60)	66-93								
PVGLO_HSV84	GLYCOPROTEIN G PRECURSOR	EQUINE HERPESVIRUS TYPE 4	271-298								
PVGLO_HSV8B	MAJOR SURFACE GLYCOPROTEIN G	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	383-410								
PVGLO_RABVT	SPIKE GLYCOPROTEIN PRECURSOR	RABIES VIRUS (STRAIN STREET)	486-519								
PVGLO_VSVO	SPIKE GLYCOPROTEIN PRECURSOR	VESICULAR STOMATITIS VIRUS (SEROTYPE INDIANA / STRAIN GLASGOW)	472-499								
PVGLH_EBV	GLYCOPROTEIN GP85 PRECURSOR	EPSTEIN-BARR VIRUS (STRAIN B95-1)	549-576	619-648							
PVGLH_HCMVA	GLYCOPROTEIN H PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	107-136	270-297							
PVGLH_HCMVT	GLYCOPROTEIN H PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	106-135								
PVGLH_HSV1G	GLYCOPROTEIN H PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN GS)	62-89	360-403							
PVGLH_HSV1A	GLYCOPROTEIN H PRECURSOR	HERPESVIRUS SAIMIRI (STRAIN 11)	388-415								
PVGLI_MCMVA	15 GLYCOPROTEIN PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	47-111								
PVGLM_BUNGE	M POLYPROTEIN PRECURSOR	BUNYAVIRUS GERMISTON	512-546	914-941	1128-1255						
PVGLM_BUNL7	M POLYPROTEIN PRECURSOR	BUNYAVIRUS LA CROSSE (ISOLATE L74)	913-950								
PVGLM_BUNYW	M POLYPROTEIN PRECURSOR	BUNYAMWERA VIRUS	340-374	504-533	662-709						
PVGLM_DUGBV	M POLYPROTEIN PRECURSOR	DUGBE VIRUS	945-972								
PVGLM_HANTB	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN B-1)	73-100	691-720							
PVGLM_HANTH	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN HOJO)	73-102								
PVGLM_HANTL	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN LEE)	73-102								
PVGLM_HANTV	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN 76-118)	73-102								
PVGLM_JNIV	M POLYPROTEIN PRECURSOR	IMPATIENS NECROTIC SPOT VIRUS	628-655	1069-1101							
PVGLM_PHV	M POLYPROTEIN PRECURSOR	PROSPECT HILL VIRUS	60-96								
PVGLM_PUUMH	M POLYPROTEIN PRECURSOR	PUUMALA VIRUS (STRAIN HALLNAS B1)	72-110								
PVGLM_PUUMS	M POLYPROTEIN PRECURSOR	PUUMALA VIRUS (STRAIN SOTKAMO)	72-110								
PVGLM_SEOU5	M POLYPROTEIN PRECURSOR	SEOUL VIRUS (STRAIN 80-39)	513-540	693-720							
PVGLM_SEOUR	M POLYPROTEIN PRECURSOR	SEOUL VIRUS (STRAIN R22)	73-100	513-540	694-721						
PVGLM_SEOUS	M POLYPROTEIN PRECURSOR	SEOUL VIRUS (STRAIN SR-11)	73-100	513-540	694-721						
PVGLN_BEFV	NONSTRUCT GLYCOPRO GN5 PRECURSOR	BOVINE EPHEMERAL FEVER VIRUS	523-564								
PVGLP_BEV	PEPLOMER GLYCOPROTEIN PRECURSOR	BERNE VIRUS	48-82	1145-1179	1184-1211	1505-1532					
PVGLV_JUNN	GLYCOPROTEIN POLYPROTEIN PRECURSOR	JUNIN ARENAVIRUS	114-41								
PVGLY_LASSO	GLYCOPROTEIN POLYPROTEIN PRECURSOR	LASSA VIRUS (STRAIN GA391)	86-113								
PVGLY_MOPEI	GLYCOPROTEIN POLYPROTEIN PRECURSOR	MOPEIA VIRUS	86-113	316-346							
PVGLY_PARV	GLYCOPROTEIN POLYPROTEIN PRECURSOR	PICHINDE ARENAVIRUS	334-375								
PVGLY_TACV	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACARIBE VIRUS	109-136	315-350							
PVGLY_TACV5	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACARIBE VIRUS (STRAIN V5)	303-338								

PCGENE	16Jul1864	All Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	VIRUS									
PVGLY_TACVT	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACAIBE VIRUS (STRAIN VT)	302-337								
PVGLY_TACVZ	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACAIBE VIRUS (STRAIN TEVE 11598)	303-338								
PVGLY_TACVT	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACAIBE VIRUS	191-221								
PVGNA_CHAMV	GENOME POLYPROTEIN [4]	COWPEA SEVERE MOSAIC VIRUS (STRAIN DG)	104-149								
PVGBR_EBV	PROBABLE MEMBRANE ANTIGEN GP85	EPSTEIN-BARR VIRUS (STRAIN B95-8)	286-314								
PVGP_EBOV	STRUCTURAL GLYCOPROTEIN PRECURSOR	EBOLA VIRUS	559-589	619-646							
PVGP_MARVM	STRUCTURAL GLYCOPROTEIN PRECURSOR	MARBURG VIRUS (STRAIN MUSOKE)	559-589	619-646							
PVGP_MARVP	STRUCTURAL GLYCOPROTEIN PRECURSOR	MARBURG VIRUS (STRAIN POPP)	132-166								
PVHG1_VACCC	PROTEIN H3	VACCINIA VIRUS (STRAIN COPENHAGEN)	132-166	150-184							
PVHG1_VACCV	PROTEIN H3	VACCINIA VIRUS (STRAIN WR)	64-91								
PVHG3_VARV	PROTEIN H5	VARIOLA VIRUS	130-160								
PVHEL_LSV	PROBABLE HELICASE	LILY SYMPTOMLESS VIRUS	241-275								
PVHG2_VACCC	HOST RANGE PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	241-275								
PVHG2_VACCV	HOST RANGE PROTEIN	VACCINIA VIRUS (STRAIN WR)	90-117	133-180							
PVP1_VACCC	PROTEIN 11	VACCINIA VIRUS (STRAIN COPENHAGEN)	90-117	133-180							
PVP1_VARV	PROTEIN 11	VARIOLA VIRUS	160-190								
PVP1_VACCC	PROTEIN D5	VACCINIA VIRUS (STRAIN COPENHAGEN)	160-190								
PVP1_VACCV	PROTEIN D5	VACCINIA VIRUS (STRAIN WR)	160-190								
PVP3_VARV	PROTEIN D5	VARIOLA VIRUS	290-317	348-375	393-432						
PVP3_VACCC	PUTATIVE RNA HELICASE 18	VACCINIA VIRUS (STRAIN COPENHAGEN)	290-317	348-375	393-432						
PVP3_VACCV	PUTATIVE RNA HELICASE 18	VACCINIA VIRUS (STRAIN WR)	290-317	348-375	393-432						
PVP3_VARV	PUTATIVE RNA HELICASE 18	VARIOLA VIRUS	261-288								
VIB1_MCMVS	IMMEDIATE-EARLY PROTEIN 1	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	333-383								
VIB2_NPVOP	IMMEDIATE-EARLY PROTEIN IE-2	OROYTIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	217-323	343-400							
VIEN_NPVAC	IE-1/EO PROTEIN IE-N	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	62-89								
VIF_EVIRN	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (B/HXB2 ISOLATE)	2-36								
VIF_SIVAI	VIRION INFECTIVITY FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM-7 CLONE GRI-1)	147-174								
VIHP_HSVEB	PROB INTEGRAL MEMBRANE PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	80-107								
VINT_ESVI	INTEGRAL MEMBRANE PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	73-100								
VIP1_VACCC	PROBABLE INTEGRASE	SULFOLOBUS VIRUS-LIKE PARTICLE ESV1	22-56								
VIP1_VACCV	PROTEIN J1	VACCINIA VIRUS (STRAIN COPENHAGEN)	22-56								
VIP1_VARV	PROTEIN J1	VACCINIA VIRUS (STRAIN WR)	22-56								
VL1_CRPVR	PROBABLE L1 PROTEIN	VARIOLA VIRUS	331-383								
VL1_FPVL	PROBABLE L1 PROTEIN	COTTONTAIL RABBIT (SHOPE) PAPILLOMAVIRUS (STRAIN KANSAS)	38-65								
VL1_HPV08	PROBABLE L1 PROTEIN	AVIAN PAPILLOMAVIRUS FPV-L	334-391								
VL1_HPV18	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 8	183-210								
VL1_HPV33	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 18	19-46								
VL1_HPV41	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	345-372								
VL1_HPV51	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	19-46								
VL1_HPV52	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 51	43-72								
VL1_HPV58	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 52	407-445								
VL2_HPV16	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 1A	415-442								
VL2_HPV41	MINOR CORE PROTEIN LAMBDA 3	HUMAN PAPILLOMAVIRUS TYPE 41	330-357								
VL3_REOVD	MINOR CORE PROTEIN LAMBDA 3	REOVIRUS (TYPE 3 / STRAIN DEARING)	330-357								
VL3_REOVL	MINOR CORE PROTEIN LAMBDA 3	REOVIRUS (TYPE 1 / STRAIN LANG)	146-180	625-652							
VL56_IRVI	L56 PROTEIN	TIPULA IRIDESCENT VIRUS	290-317								
PVM1_REOVL	MINOR VIRION STRUCTURAL PROTEIN MU	REOVIRUS (TYPE 1 / STRAIN LANG)	623-662								
PVM1_REOVD	MAJOR VIRION STRUC PROTEIN MU-1/MU-	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVM2_REOVD	MAJOR VIRION STRUC PROTEIN MU-1/MU-	REOVIRUS (TYPE 3 / STRAIN DEARING)	624-661								
PVMG_REOVL	MAJOR NONSTRUCTURAL PROTEIN MU-NS	REOVIRUS (TYPE 3 / STRAIN DEARING)	139-186	343-370	436-483	631-690					
PVMA1_BEVA	MATRIX GLYCOPROTEIN M2	REOVIRUS (TYPE 1 / STRAIN LANG)	290-317								
PVMA1_BEVA	MATRIX GLYCOPROTEIN M2	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	124-152								
PVMA2_BEVA	MATRIX GLYCOPROTEIN M2	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2/1961)	124-151								
PVMAT_BEVA	MATRIX PROTEIN	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2/1961)	219-246								
PVMAT_BEVA	MATRIX PROTEIN	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	219-246								
PVMAT_INCJ	MATRIX (M) PROTEIN	INFLUENZA C VIRUS (STRAIN C/JJ/50)	131-185								
PVMAT_NDVA	MATRIX (M) PROTEIN	NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA-VICTORIA/32)	247-274								
PVMAT_PEPT	MATRIX PROTEIN	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSHIBA)	96-123								

PCGENE	1987s17844	All Viruses (no bacteriophages)									
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVMAT_PI3B	MATRIX PROTEIN	BOVINE PARAINFLUENZA 3 VIRUS	201-231								
PVMAT_PI3H4	MATRIX PROTEIN	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	201-231								
PVMAT_SV41	MATRIX PROTEIN	SIMIAN VIRUS 41	323-353								
PVME1_CVBM	E1 GLYCOPROTEIN	BOVINE CORONAVIRUS (STRAIN MEBUS)	175-209								
PVME1_CVTKE	E1 GLYCOPROTEIN	TURKEY ENTERIC CORONAVIRUS	175-209								
PVME1_IBV6	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN 6/82)	21-48	184-218							
PVME1_IBVB	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	21-48	184-218							
PVME1_IBVB2	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE M42)	21-48	184-218							
PVME1_IBVK	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN KB8523)	184-218								
PVMP_CAMVC	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	220-254	273-324							
PVMP_CAMVD	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D/I)	29-56	220-254	273-324						
PVMP_CAMVE	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN BBC)	227-254	273-324							
PVMP_CAMVN	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY8153)	220-254	273-324							
PVMP_CAMVS	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN STRASBOURG)	220-254	273-324							
PVMP_CAMVW	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN W260)	220-254	273-324							
PVMP_CERV	MOVEMENT PROTEIN	CARNATION ETCHED RING VIRUS	26-53	100-127							
PVMP_SOCMV	MOVEMENT PROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	4-31	78-118							
PVMSA_HPBHE	MAJOR SURFACE ANTIGEN PRECURSOR	HERON HEPATITIS B VIRUS	294-328								
PVMT1_DHVT1	MATRIX PROTEIN 1	DHORI VIRUS (STRAIN INDIAN/1313/61)	38-65	237-264							
PVMT8_MYXVL	M-T8 PROTEIN	MYXOMA VIRUS (STRAIN LAUSANNE)	163-190								
PVMT9_MYXVL	MT-9 PROTEIN	MYXOMA VIRUS (STRAIN LAUSANNE)	465-492								
PVNS4_ROTPC	NONSTRUCTURAL PROTEIN NS34	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	83-113								
PVNCN_PAVBO	PROBABLE NONCAPSID PROTEIN NP1	BOVINE PARVOVIRUS	149-176								
PVNCS_ADVG	NONCAPSID PROTEIN NS-1	ALEUTIAN MINK DISEASE PARVOVIRUS (STRAIN G)	86-148								
PVNCS_AEDEV	NONCAPSID PROTEIN NS-1	AEDES DENSONUCLEOSIS VIRUS (STRAIN GKV 002 002)	14-41	279-339	487-517	585-612	780-817	821-848			
PVNCS_MUMIM	NONCAPSID PROTEIN NS-1	MURINE MINUTE VIRUS (STRAIN MVMI)	35-62	262-289							
PVNCS_MUMIV	NONCAPSID PROTEIN NS-1	MURINE MINUTE VIRUS	35-62	262-289							
PVNCS_PAVHB	NONCAPSID PROTEIN NS-1	HUMAN PARVOVIRUS B19	236-270								
PVNCS_PAVHH	NONCAPSID PROTEIN NS-1	HAMSTER PARVOVIRUS H1	35-62								
PVNCS_PAVPN	NONCAPSID PROTEIN NS-1	PORCINE PARVOVIRUS (STRAIN NADL-2)	24-55	169-196	316-346						
PVNS1_EHDV2	NONSTRUCTURAL PROTEIN NS1	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 2 / STRAIN ALBERTA	411-438								
PVNS1_IAALA	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ALASKA/6/77)	171-198								
PVNS1_IAANN	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	171-198								
PVNS1_IACHI	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/CHILE/1/83)	171-198								
PVNS1_IACKG	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/CHICKEN/GERMANY/N/49)	171-198								
PVNS1_IACKJ	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/CHICKEN/JAPAN/24)	168-195								
PVNS1_IADA2	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERTA/60/76)	171-198								
PVNS1_IAFOM	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/FORT MONMOUTH/1/47)	171-198								
PVNS1_IAFOW	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/FORT WARREN/1/50)	171-198								
PVNS1_IALE1	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/57)	171-198								
PVNS1_IAMA6	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/MALLARD/ALBERTA/88/76)	171-198								
PVNS1_IAPI1	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/121/79)	171-198								
PVNS1_IAPI3	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/358/79)	171-198								
PVNS1_IATKB	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TURKEY/BETHLEHEM-GLILIT/1492-B/82)	171-198								
PVNS1_IATKC	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TURKEY/CANADA/63)	171-198								
PVNS1_IATRT	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TERN/TURKMENIA/18/72)	171-198								
PVNS1_IAUDO	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/UDORN/307/72)	171-198								
PVNS1_IAUSS	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/USSR/90/77)	171-198								
PVNS1_INBPA	NONSTRUCTURAL PROTEIN NS1	INFLUENZA B VIRUS (STRAIN B/PA/79)	171-198								
PVNS2_IATKR	NONSTRUCTURAL PROTEIN NS2	INFLUENZA A VIRUS (STRAIN A/TURKEY/OREGON/71)	87-114								
PVNS2_INBLE	NONSTRUCTURAL PROTEIN NS2	INFLUENZA B VIRUS (STRAIN B/LEE/40)	51-78								
PVNS2_INBYA	NONSTRUCTURAL PROTEIN NS2	INFLUENZA B VIRUS (STRAIN B/YAMAGATA/1/73)	51-78								
PVNS2_INCJJ	NONSTRUCTURAL PROTEIN NS2	INFLUENZA C VIRUS (STRAIN C/JJ/50)	71-98								
PVNS3_CVPFS	NONSTRUCTURAL PROTEIN 3-1	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN FS772/	9-36								
PVNS4_CVH22	NONSTRUCTURAL PROTEIN 4	HUMAN CORONAVIRUS (STRAIN 229E)	9-36								
PVNS4_RSV	NONSTRUCTURAL PROTEIN NS4	RICE STRIPE VIRUS	6-40								
PVNS7_CVCAE	NONSTRUCTURAL PROTEIN 7	CANINE ENTERIC CORONAVIRUS (STRAIN K378)	11-45								

PCGENE	10?s17?s14	All Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
		VIRUS	6-42							
ELE NAME	PROTEIN	FELINE ENTERIC CORONAVIRUS (STRAIN 79-1683)								
PVNS3_CVFE3	NONSTRUCTURAL PROTEIN 7	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN FS772)	3461							
PVNS7_CVPF3	NONSTRUCTURAL PROTEIN 7	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN PUR1)	3461							
PVNS7_CVPPU	NONSTRUCTURAL PROTEIN 7	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS	3461							
PVNS7_CVPAN	NONSTRUCTURAL PROTEIN 7	PORCINE RESPIRATORY CORONAVIRUS	6-42							
PVNS7_FIPV	NONSTRUCTURAL PROTEIN 7	FELINE INFECTIOUS PERITONITIS VIRUS (STRAIN 79-1146)	41-75							
PVNSC_FIPUR	NONSTRUCTURAL PROTEIN C	FELINE INFECTIOUS PERITONITIS VIRUS (STRAIN CI-1683)	58-99							
PVNSC_PDMH	NONSTRUCTURAL PROTEIN C	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	265-296							
PVNSM_INSV	NONSTRUCTURAL PROTEIN NS-M	PAPATENS NECROTIC SPOT VIRUS	37-84							
PVNST_BUNLC	NONSTRUCTURAL PROTEIN NS-S	BUNYAVIRUS LA CROSSE	140-180							
PVNST_TOSV	NONSTRUCTURAL PROTEIN NS-S	TOSCANA VIRUS	311-369							
PVNUC_EBOV	NUCLEOPROTEIN	EBOLA VIRUS	378-405							
PVNUC_IAANA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ANAS ACUTA/MUNICH/6/76)	378-405							
PVNUC_IAANN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ANN ARBOR/6/60)	378-405							
PVNUC_IABRA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ABRAZU/11/78)	378-405							
PVNUC_IABUD	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/BUDGERIGAR/HOKKAIDO/1/72)	378-405							
PVNUC_IACAL	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/CALIFORNIA/10/78)	378-405							
PVNUC_IACKG	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/CHICKEN/GERMANY/N/49)	378-405							
PVNUC_IACKP	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/CHICKEN/PENNSYLVANIA/1/83)	378-405							
PVNUC_IADAU	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/AUSTRALIA/75/80)	378-405							
PVNUC_IADBE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/BEIJING/1/78)	378-405							
PVNUC_IADCZ	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/CZECHOSLOVAKIA/56)	378-405							
PVNUC_IADKI	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/ENGLAND/1/67)	378-405							
PVNUC_IADKR	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/ENGLAND/1/82)	378-405							
PVNUC_IADMA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/HONG KONG/77/75)	378-405							
PVNUC_IADUS	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/MAINTOBA/1/53)	378-405							
PVNUC_IAENG	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/NEW ZEALAND/1/76)	378-405							
PVNUC_IAENZ	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/UKRAINE/63/60)	378-405							
PVNUC_IAENS	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/ENGLAND/1/65)	378-405							
PVNUC_IAENU	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/FORT MONMOUTH/1/47)	378-405							
PVNUC_IAFOW	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/FORT WARREN/1/50)	378-405							
PVNUC_IAFPB	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/DOBSON/DUTCH/27)	378-405							
PVNUC_IAFPA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK/34)	378-405							
PVNUC_IAGRE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GREY TEAL/AUSTRALIA/2/79)	378-405							
PVNUC_IAGUI	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GUILLEMOT/MARYLAND/704/77)	378-405							
PVNUC_IAGU5	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GUILLEMOT/MARYLAND/1824/78)	378-405							
PVNUC_IAGU7	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GUILLEMOT/MARYLAND/1915/79)	378-405							
PVNUC_IAGU4	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GULL/ASTRAKHAN/2/78)	378-405							
PVNUC_IAGUA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GULL/MASSACHUSETTS/26/80)	378-405							
PVNUC_IAGUM	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GULL/NEW SOTA/45/80)	378-405							
PVNUC_IAGUN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/HECK/80/80)	378-405							
PVNUC_IAHC	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/ILLINOIS/1/89)	378-405							
PVNUC_IAHJ1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/LONDON/1416/73)	378-405							
PVNUC_IAHLO	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/MIAMI/1/63)	378-405							
PVNUC_IAHM3	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/HONG KONG/1/68)	378-405							
PVNUC_IAHO1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/HONG KONG/5/83)	378-405							
PVNUC_IAHO2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/PRAGUE/1/56)	378-405							
PVNUC_IAHP1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/TENNESSEE/5/86)	378-405							
PVNUC_IAHT8	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/KIEV/59/79)	378-405							
PVNUC_IAK3E	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/3/41)	378-405							
PVNUC_IALEN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/MALLARD/ASTRAKHAN/244/82)	378-405							
PVNUC_IAMAA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/MALLARD/NEW YORK/6750/78)	378-405							
PVNUC_IAMAN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/MONKEY/SWEDEN/84)	378-405							
PVNUC_IAMD	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/NEW TEXAS/1/78)	378-405							
PVNUC_IANP6	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN ANT/60/65)	378-405							
PVNUC_IAOH3	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN AOH/3/83)	378-405							

FCGENE	1972178x4	All Viruses (no bacteriophages)	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA2
FILE NAME	PROTEIN	VIRUS	378-405									
PVNUC_1AAA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/PARROT/ULSTER/73)	378-405									
PVNUC_1AAE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	378-405									
PVNUC_1AAD	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/RUDDY TURNSTONE/NEW JERSEY/65/85)	378-405									
PVNUC_1A3D	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SEAL/MASSACHUSETTS/1/80)	378-405									
PVNUC_1A3H1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SHEARWATER/AUSTRALIA/1/72)	378-405									
PVNUC_1A3N1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SINGAPORE/1/57)	378-405									
PVNUC_1A3N	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/ICELAND/29/82)	378-405									
PVNUC_1ATB1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/TURKEY/MINNESOTA/1/81)	378-405									
PVNUC_1ATKN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/TURKEY/ONTARIO/7732/66)	378-405									
PVNUC_1ATKO	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/TURKEY/SOUTH AFRICA/61)	378-405									
PVNUC_1ATN1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/TURKEY/UKRAINE/1/72)	378-405									
PVNUC_1ATN1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/TEXAS/1/77)	378-405									
PVNUC_1AUD0	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/UDORN/307/72)	378-405									
PVNUC_1AUS1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/USSR/90/77)	378-405									
PVNUC_1AV16	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/VICTORIA/3/68)	378-405									
PVNUC_1AWHN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WHALE/MAINE/328/84)	378-405									
PVNUC_1AWHP	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WHALE/PACIFIC OCEAN/1976)	378-405									
PVNUC_1AWIL	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WILSON-SMITH/33)	378-405									
PVNUC_1AWI5	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WISCONSIN/15/83)	378-405									
PVNUC_1AZ59	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/59/31)	378-405									
PVNUC_1AZ31	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/31/49)	378-405									
PVNUC_1AZCA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/CAMBRIDGE/1/35)	378-405									
PVNUC_1AZDA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/DANDONG/9/81)	378-405									
PVNUC_1AZGE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/GERMANY/2/81)	378-405									
PVNUC_1AZH1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/HONG KONG/4/76)	378-405									
PVNUC_1AZH5	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/HONG KONG/126/82)	378-405									
PVNUC_1AZH4	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/HONG KONG/127/82)	378-405									
PVNUC_1AZI1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/1/30)	378-405									
PVNUC_1AZI2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/1976/31)	378-405									
PVNUC_1AZI3	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/446)	378-405									
PVNUC_1AZI1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/ITALY/437/76)	378-405									
PVNUC_1AZI2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/ITALY/2/79)	378-405									
PVNUC_1AZJ3	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/ITALY/141/81)	378-405									
PVNUC_1AZJ4	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/ITALY/1979/89)	378-405									
PVNUC_1AZJA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/JAMESBURG/42)	378-405									
PVNUC_1AZNA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/MAY/54)	378-405									
PVNUC_1AZNE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/NETHERLANDS/17/75)	378-405									
PVNUC_1AZOH	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/OHIO/2/31)	378-405									
PVNUC_1AZON	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/ONTARIO/2/81)	378-405									
PVNUC_1AZTE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/TENNESSEE/24/77)	378-405									
PVNUC_1AZW1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/WISCONSIN/1/57)	378-405									
PVNUC_1AZW2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/WISCONSIN/1/61)	378-405									
PVNUC_1NCCA	NUCLEOPROTEIN	INFLUENZA C VIRUS (STRAIN C/CALIFORNIA/78)	99-126	416-443	451-478							
PVNUC_1MARVM	NUCLEOPROTEIN	MARBURG VIRUS (STRAIN MUSOKE)	366-407									
PVNUC_1MARVP	NUCLEOPROTEIN	MARBURG VIRUS (STRAIN POPP)	366-407									
PV001_VACCC	PROTEIN O1	VACCINIA VIRUS (STRAIN COPENHAGEN)	7-37	109-138	381-408							
PV001_VARV	PROTEIN O1	VARIOLA VIRUS	7-37	109-138	381-408							
PVOR1_FDMV	153 KD PROTEIN	FOXTAIL MOSAIC VIRUS	1023-1050									
PVOR1_NMV	184 KD PROTEIN	NARCISSUS MOSAIC VIRUS	996-1023	1527-1561								
PVOR1_PMV	174 KD PROTEIN	PAPAYA MOSAIC POTEXVIRUS	948-978	1481-1512								
PVOR1_PVM	223 KD PROTEIN	POTATO VIRUS M (STRAIN RUSSIAN)	397-427									
PVOR1_PVX	165 KD PROTEIN	POTATO VIRUS X	698-725	1017-1044								
PVOR1_PVX0	165 KD PROTEIN	POTATO VIRUS X (STRAIN X0)	698-725	1017-1044								
PVOR1_SMYEA	154 KD PROTEIN	STRAWBERRY MILD YELLOW EDGE-ASSOCIATED VIRUS	312-342	691-721								
PVP10_NPVAC	P10 PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	7-41									
PVP10_NPVOP	P10 PROTEIN	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	7-48									
PVP10_NPVSE	P10 PROTEIN	SPODOPTERA EXIGUA NUCLEAR POLYHEDROSIS VIRUS (STRAIN US)	6-33	35-64								

PGGENE	18:51:17 Jul	All Viruses (no bacteriophages)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILE NAME	P.PROTEIN	VIRUS									
PVP10_RGDV	NONSTRUCTURAL PROTEIN PNS10	RICE GALL DWARF VIRUS	209-233								
PVP10_WTV	NONSTRUCTURAL PROTEIN PNS10	WOUND TUMOR VIRUS	151-181	227-254							
PVP10_WTV	NONSTRUCTURAL PROTEIN PNS11	RICE DWARF VIRUS	53-80								
PVP11_RDV	NONSTRUCTURAL PROTEIN PNS11	WOUND TUMOR VIRUS	81-108								
PVP12_WTV	NONSTRUCTURAL PROTEIN PNS12	WOUND TUMOR VIRUS (STRAIN NJ)	81-108								
PVP12_WTVNJ	NONSTRUCTURAL PROTEIN PNS12	WOUND TUMOR VIRUS (STRAIN NJ)	73-100								
PVP19_AMCV	CORE PROTEIN P19	ARTICHOKE MOTTLED CRINKLE VIRUS	73-100								
PVP19_TBSVC	CORE PROTEIN P19	TOMATO BUSHY STUNTVIRUS (STRAIN CHERRY)	3-29								
PVP23_HSVSA	PROBABLE CAPSID PROTEIN VP23	HERPESVIRUS SAIMIRI (STRAIN 11)	36-63								
PVP26_HSVEB	CAPSID PROTEIN VP26	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	48-75								
PVP26_HSVSA	CAPSID PROTEIN VP26	HERPESVIRUS SAIMIRI (STRAIN 11)	277-304	410-437	632-662	907-934					
PVP1_ABSV4	OUTER CAPSID PROTEIN VP1	AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4 / STRAIN VACCINE)	815-846								
PVP1_BTV13	OUTER CAPSID PROTEIN VP1	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	898-913								
PVP2_BTV1A	OUTER CAPSID PROTEIN VP2	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE AUSTRALIA)	119-146								
PVP2_BTV1S	OUTER CAPSID PROTEIN VP2	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE SOUTH AFRICA)	72-103	415-451							
PVP2_BTDV1	OUTER CAPSID PROTEIN VP2	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1)	39-94	525-553							
PVP2_ROTBR	RNA-BINDING PROTEIN VP2	BOVINE ROTAVIRUS (STRAIN NF)	39-94	524-554							
PVP2_ROTBU	RNA-BINDING PROTEIN VP2	BOVINE ROTAVIRUS (STRAIN UK)	70-101	533-567							
PVP2_ROTHW	RNA-BINDING PROTEIN VP2	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	53-99	128-156	518-545	705-746					
PVP2_ROTPC	RNA-BINDING PROTEIN VP2	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	36-96								
PVP2_ROTSA	RNA-BINDING PROTEIN VP2	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	39-75								
PVP30_ASFE7	PHOSPHOPROTEIN P30	AFRICAN SWINE FEVER VIRUS (STRAIN E-75)	39-75								
PVP33_ASFB7	PHOSPHOPROTEIN P33	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	83-119								
PVP33_BKDV	POLYMERASE COMPLEX PROTEIN VP33	EBOLA VIRUS	80-107	231-258							
PVP33_MARVM	POLYMERASE COMPLEX PROTEIN VP33	MARBURG VIRUS (STRAIN MUSOKE)	80-107	231-258							
PVP33_MARVP	POLYMERASE COMPLEX PROTEIN VP33	MARBURG VIRUS (STRAIN POPP)	276-287								
PVP33_NPVAC	EARLY 33 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	68-102								
PVP33_NPVBM	EARLY 33 KD PROTEIN	BOMBYX MORI NUCLEAR POLYHEDROSIS VIRUS	176-203								
PVP33_VACCV	DNA UNWINDING ENZYME P33	VACCINIA VIRUS (STRAIN WR)	134-161	284-291							
PVP39_NPVAC	MAJOR CAPSID PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	363-390								
PVP39_NPVOP	MAJOR CAPSID PROTEIN	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	113-139								
PVP3_ABSV4	VP3 CORE PROTEIN	AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4 / STRAIN VACCINE)	214-253								
PVP3_BTV10	VP3 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	214-253								
PVP3_BTV17	VP3 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	214-253								
PVP3_BTV1A	VP3 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE AUSTRALIA)	214-253								
PVP3_BTDV1	VP3 CORE PROTEIN	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1)	209-243	798-832							
PVP3_BTV1A	VP3 CORE PROTEIN	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 2 / STRAIN AUSTRALIA)	798-833								
PVP3_GRLV	P3 PROTEIN	GRAPEVINE FANLEAF VIRUS	99-133								
PVP3_ROTPC	INNER CORE PROTEIN VP3	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	39-66	329-384							
PVP3_ROTSA	INNER CORE PROTEIN VP3	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	264-3	350-377	431-457	619-692					
PVP40_EBV	CAPSID PROTEIN P40	EPSTEIN-BARR VIRUS (STRAIN B95-8)	440-470								
PVP40_HSVSA	CAPSID PROTEIN P40	HERPESVIRUS SAIMIRI (STRAIN 11)	285-312	344-372							
PVP40_ILTVT	CAPSID PROTEIN P40	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN THORNE V882)	515-549								
PVP40_VZVD	CAPSID PROTEIN P40	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	174-208	495-522							
PVP41_ROTSA	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	8-35	589-619							
PVP42_ROTSA	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	8-35	584-622							
PVP4A_VACCC	MAJOR CORE PROTEIN P4A PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	48-75								
PVP4A_VACCV	MAJOR CORE PROTEIN P4A PRECURSOR	VACCINIA VIRUS (STRAIN WR)	48-75								
PVP4A_VARV	MAJOR CORE PROTEIN P4A PRECURSOR	VARIOLA VIRUS	48-75								
PVP4B_FOWPV	MAJOR CORE PROTEIN P4B PRECURSOR	FOWLPOX VIRUS	86-110								
PVP4B_VACCC	MAJOR CORE PROTEIN P4B PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	7-37								
PVP4B_VACCV	MAJOR CORE PROTEIN P4B PRECURSOR	VACCINIA VIRUS (STRAIN WR)	7-37								
PVP4B_VARV	MAJOR CORE PROTEIN P4B PRECURSOR	VARIOLA VIRUS	7-37								
PVP4_BTV10	VP4 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	34-61	518-603							
PVP4_BTV11	VP4 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	34-61	576-603							
PVP4_BTV13	VP4 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	34-61	576-603							
PVP4_BTV1A	OUTER CAPSID PROTEIN VP4	NEBRASKA CALF DIARRHEA VIRUS (STRAIN NCDV-LINCOLN)	532-622								
PVP4_NCDV	OUTER CAPSID PROTEIN VP4	BOVINE ROTAVIRUS (SEROTYPE 6 / STRAIN B641)	595-629								

PCGENE	107s170s4	All Viruses (no bacteriophages)									
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVP4_ROTB4	OUTER CAPSID PROTEIN VP4	BOVINE ROTAVIRUS (STRAIN C486)	8-35	584-622							
PVP4_ROTBC	OUTER CAPSID PROTEIN VP4	BOVINE ROTAVIRUS (STRAIN UK)	595-629								
PVP4_ROTBU	OUTER CAPSID PROTEIN VP4	EQUINE ROTAVIRUS (STRAIN H-2)	112-146	235-269	552-629						
PVP4_ROTEH	OUTER CAPSID PROTEIN VP4	ROTAVIRUS (GROUP B / STRAIN IDIR)	5-32								
PVP4_ROTGI	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN 1076)	8-35	572-628							
PVP4_ROTH1	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN RV-5)	8-35	279-306	565-621						
PVP4_ROTH3	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN 69M)	8-35	112-139	584-629						
PVP4_ROTH4	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN 69M)	8-35	279-306	565-621						
PVP4_ROTHD	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN DS1)	8-35	279-306	565-621						
PVP4_ROTHJ	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (STRAIN KU)	8-35	111-138							
PVP4_ROTHK	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (STRAIN KU)	8-35	77-104	279-306	577-621					
PVP4_ROTHL	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (STRAIN L26)	8-35	279-306	565-621						
PVP4_ROTHM	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN M37)	8-35	572-610							
PVP4_ROTHN	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN MCN13	8-35	573-628							
PVP4_ROTHP	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN P)	8-35	577-621							
PVP4_ROTHR	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN RRV)	8-38	105-135	235-262						
PVP4_ROTHT	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN ST. THOMAS 3)	8-35	572-627							
PVP4_ROTHV	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN VA70)	8-35	279-306	590-617						
PVP4_ROTHW	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	8-35	577-621							
PVP4_ROTP5	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (SEROTYPE 5 / STRAIN OSU)	112-146	584-625							
PVP4_ROTPC	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	5-33	115-161	293-320						
PVP4_ROTPG	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (STRAIN GOTTFRIED)	8-35	572-628							
PVP4_ROTPY	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (STRAIN YM)	8-35	112-146	584-625						
PVP4_ROTRH	OUTER CAPSID PROTEIN VP4	RHESUS ROTAVIRUS	8-38	584-622							
PVP4_ROTSF	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11-FEM)	8-35	589-619							
PVP4_ROTSS	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11-SEM)	8-35	130-157	584-622						
PVP4_WTV	NONSTRUCTURAL PROTEIN PNS4	WOUND TUMOR VIRUS	28-62								
PVP5_AHSV4	OUTER CAPSID PROTEIN VP5	AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4 / STRAIN VACCINE)	113-183	191-218							
PVP5_BTV10	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	53-80	99-126							
PVP5_BTV11	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	53-80	92-126							
PVP5_BTV13	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	53-80								
PVP5_BTV1A	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE AUSTRALIA)	53-80	89-126							
PVP5_BTV1S	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE SOUTH AFRICA)	53-80	92-126	148-182						
PVP5_BTV2A	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	53-80	89-126							
PVP5_EHDV1	OUTER CAPSID PROTEIN VP5	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1)	31-80	191-218	399-426						
PVP5_WTV	OUTER COAT PROTEIN P5	WOUND TUMOR VIRUS	648-675								
PVP61_BTV10	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	161-193								
PVP61_MDV	PROB NONSTRUCT 41.0 KD PRO	MAIZE ROUGH DWARF VIRUS	153-202								
PVP61_NPVAC	61 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	36-63								
PVP62_BTV10	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	157-189								
PVP64_NPVOP	MAJOR ENV GLYCOPRO PRECURSOR	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	45-72								
PVP67_NPVAC	MAJOR ENV GLYCOPRO PRECURSOR	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	44-81								
PVP6_BTV11	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	157-189								
PVP6_BTV13	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	157-189								
PVP6_BTV17	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	157-189								
PVP6_BTV1S	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE SOUTH AFRICA)	161-193								
PVP6_BTV2A	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	133-172								
PVP6_RDV	STRUCTURAL PROTEIN P6	RICE DWARF VIRUS	10-37	354-381							
PVP74_NPVAC	P74 PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	413-440								
PVP75_HSVSA	PROBABLE MEMBRANE ANTIGEN 75	HERPESVIRUS SAIMIRI (STRAIN 11)	181-208	929-977							
PVP79_NPVAC	79 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	44-78	370-397							
PVP7_EHDV1	VP7 CORE PROTEIN	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1)	16-43								
PVP7_WTV	NONSTRUCTURAL PROTEIN PNS7	WOUND TUMOR VIRUS	458-485								
PVP80_NPVAC	CAPSID PROTEIN P80	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	101-142	240-298							
PVP87_NPVOP	CAPSID PROTEIN P87	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	132-159								
PVP8_BTV10	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	105-132								
PVP8_FOWPV	STRUCTURAL PROTEIN VP8 PRECURSOR	FOWLPOX VIRUS	211-238								

PCGENE	107:178:4	All Viruses (no bacteriophages)	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1
FULL NAME	PROTEIN	VIRUS	29-56	112-143						
PVP1_WTV	OUTER CAPSID PROTEIN P4	WOUND TUMOR VIRUS	197-224							
PVP1_RDV	NONSTRUCTURAL PROTEIN PNS9	RICE DWARF VIRUS	22-49							
PVP2_WTV	STRUCTURAL PROTEIN P8	WOUND TUMOR VIRUS	22-49							
PVP3_WTVNJ	STRUCTURAL PROTEIN P9	WOUND TUMOR VIRUS (STRAIN NJ)	196-223							
PVP4_NPVAC	39 KD POLYHEDRAL ENVELOPE PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	127-156	238-265						
PVP5E_NPVOP	32 KD POLYHEDRAL ENVELOPE PROTEIN	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	167-194							
PVP5T_ADE41	ENDOPROTEASE	MOUSE ADENOVIRUS TYPE 1	3-31							
PVPU_HV1X3	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ARV/J5F2 ISOLATE)	5-48							
PVPU_HV1B1	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (III10 AND IIIX1B ISOLATES)	21-48							
PVPU_HV1B8	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH8 ISOLATE)	23-49							
PVPU_HV1BN	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRAIN ISOLATE)	5-48							
PVPU_HV1JR	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JRCSF ISOLATE)	5-48							
PVPU_HV1CI	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (COC-451 ISOLATE)	5-30							
PVPU_HV1EL	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE)	6-33							
PVPU_HV1H2	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (IIIX02 ISOLATE)	5-48							
PVPU_HV1H3	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JH3 ISOLATE)	23-49							
PVPU_HV1J5	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JRCSF ISOLATE)	21-48							
PVPU_HV1JR	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MAL ISOLATE)	5-32							
PVPU_HV1MA	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)	6-33							
PVPU_HV1NDK	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	5-48							
PVPU_HV1PV	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SF162 ISOLATE)	23-49							
PVPU_HV1S1	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS	51-78							
PVPU_HV2C2	VPU PROTEIN	CROMAZIDE IMMUNODEFICIENCY VIRUS	64-94							
PVPX_LDV	VPX PROTEIN	LACTATE DEHYDROGENASE-ELEVATING VIRUS	1051-1078							
PVRNA_BSMV	ALPHA-A PROTEIN	BARLEY STRIPE MOSAIC VIRUS	6-43							
PVS01_ROTGA	VP6 PROTEIN	BOVINE ROTAVIRUS (GROUP C / STRAIN SHINTOKU)	114-144							
PVS02_ROTOA	VP6 PROTEIN	ROTAVIRUS (GROUP B / STRAIN ADRV)	28-55							
PVS04_ROTOI	VP6 PROTEIN	ROTAVIRUS (GROUP B / STRAIN IDR)	9-44							
PVS05_ROTHC	VP6 PROTEIN	HUMAN ROTAVIRUS	9-44							
PVS06_ROTPC	VP6 PROTEIN	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	3-29							
PVS07_ROTBU	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (STRAIN UK)	91-146	199-236						
PVS07_ROTBU	NONSTRUCTURAL PROTEIN NCVP3	BOVINE ROTAVIRUS (SEROTYPE 5 / STRAIN OSU)	91-146	203-236						
PVS07_ROTP5	NONSTRUCTURAL PROTEIN NCVP3	PORCINE ROTAVIRUS (STRAIN SA11)	91-146	199-236						
PVS07_ROTS1	NONSTRUCTURAL PROTEIN NS53/VP8	SIMIAN 11 ROTAVIRUS (STRAIN UK)	164-201							
PVS08_ROTS1	NONSTRUCTURAL PROTEIN NCVP4	SIMIAN 11 ROTAVIRUS (SEROTYPE 5 / STRAIN B641)	164-201	217-251						
PVS09_ROTB4	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (STRAIN A5)	2-29							
PVS09_ROTB5	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (STRAIN UK)	2-29							
PVS09_ROTBU	GLYCOPROTEIN VP7 PRECURSOR	ROTAVIRUS (GROUP B / STRAIN ADRV)	210-237							
PVS09_ROTOA	GLYCOPROTEIN VP7	ROTAVIRUS (SEROTYPE 4 / STRAIN RV-4)	2-29							
PVS09_ROTOM	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN HUS)	2-29							
PVS09_ROTOA	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE G / STRAIN B37)	2-29							
PVS09_ROTOB	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN D51)	2-29							
PVS09_ROTOD	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN HN126)	2-29							
PVS09_ROTOH	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN MO7)	2-29							
PVS09_ROTOM4	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN MO AND STRAIN D)	2-29							
PVS09_ROTOO	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN F)	2-29							
PVS09_ROTOP	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN S2)	2-29							
PVS09_ROTOS	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	2-29							
PVS09_ROTRW	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 3 / STRAIN A7/76)	2-29							
PVS09_ROTP3	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 1 / STRAIN CRW-8)	2-29							
PVS09_ROTS1	GLYCOPROTEIN VP7	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	2-29							
PVS09_ROTS1	MINOR OUTER CAPSID PROTEIN	BOVINE ROTAVIRUS (GROUP C / STRAIN SHINTOKU)	125-152							
PVS10_ROTS1	NONSTRUCTURAL GLYCOPROTEIN NCVP5	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	113-140							
PVS10_ROTS1	MINOR OUTER CAPSID PROTEIN	BOVINE ROTAVIRUS (STRAIN UK)	13-40	114-143						
PVS11_ROTBU	MINOR OUTER CAPSID PROTEIN	BOVINE ROTAVIRUS (STRAIN VM42)	13-40	114-143						
PVS11_ROTBV	MINOR OUTER CAPSID PROTEIN	BOVINE ROTAVIRUS (STRAIN VM42)	31-60							
PVS11_ROTOA	NONSTRUCTURAL PROTEIN	ROTAVIRUS (GROUP B / STRAIN ADRV) (ADULT DIARRHEA ROTAVIRUS)								

PCGENE	107x170x4	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN	VIRUS									
PV811_ROTHU	MINOR OUTER CAPSID PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN RV-5)	13-40	111-145							
PV811_ROTHD	MINOR OUTER CAPSID PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN DS1)	13-40	111-145							
PV811_ROTHW	MINOR OUTER CAPSID PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	111-145								
PV811_ROTRA	MINOR OUTER CAPSID PROTEIN	RABBIT ROTAVIRUS (STRAIN ALABAMA)	118-145								
PV811_ROTSI	MINOR OUTER CAPSID PROTEIN	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	111-146								
PV3H_MUMP1	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS	9-46								
PV3H_MUMPA	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN MATSUYAMA)	12-41								
PV3H_MUMPB	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN BELFAST)	9-41								
PV3H_MUMPE	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN ENDERS)	9-46								
PV3H_MUMJE	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN JERYL-LYNN)	9-46								
PV3H_MUMPK	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN KILHAM)	9-46								
PV3H_MUMPL	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN URISTOL 1)	9-46								
PV3H_MUMPM	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	12-41								
PV3H_MUMPR	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN RW)	9-41								
PV3H_MUMPU	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN URABE VACCINE AM9)	12-41								
PV811_REOVD	SIGMA 1 PROTEIN PRECURSOR	REOVIRUS (TYPE 3 / STRAIN DEARING)	26-63	71-122	127-168	222-239					
PV811_REOVJ	SIGMA 1 PROTEIN PRECURSOR	REOVIRUS (TYPE 2 / STRAIN DS/JONES)	4-104	130-193							
PV811_REOVL	SIGMA 1 PROTEIN PRECURSOR	REOVIRUS (TYPE 1 / STRAIN LANG)	4-52	95-104	112-160						
PV812_REOVD	SIGMA 2 PROTEIN	REOVIRUS (TYPE 3 / STRAIN DEARING)	336-384								
PV812_REOVJ	SIGMA 2 PROTEIN	REOVIRUS (TYPE 2 / STRAIN DS/JONES)	289-336								
PV813_REOVD	SIGMA 1-B PROTEIN	REOVIRUS (TYPE 3 / STRAIN DEARING)	90-117								
PV813_REOVL	SIGMA 1-B PROTEIN	REOVIRUS (TYPE 1 / STRAIN LANG)	50-77								
PVT1A_CAPVI	PROTEIN T1A	CAPRIPOXVIRUS (STRAIN INS-1)	124-158								
PVT1_SHVKA	PROTEIN T1	SHOPE FIBROMA VIRUS (STRAIN KASZA)	256-277								
PVT1E_EBV	PROBABLE DNA PACKAGING PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	234-290								
PVT1R_HCMVA	PROBABLE DNA PACKAGING PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	417-451								
PVT1R_11SVU	PROBABLE DNA PACKAGING PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN UKHZA-1102)	176-203								
PVT1R_HSV11	PROBABLE DNA PACKAGING PROTEIN	ICTALURID HERPESVIRUS 1	710-737								
PVT1R_VZVD	PROBABLE DNA PACKAGING PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	394-421								
PVTPJ_TPVIV	VIRAL PROTEIN TPX	THERMOPROTEUS TENAX VIRUS 1 (STRAIN VT1)	169-196								
PVTPX_TPV1	VIRAL PROTEIN TPX	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	169-196								
PVV_PIMHA	V PROTEIN	HUMAN PARAINFLUENZA 4A VIRUS (STRAIN TOSHIBA)	4-38								
PY101_SSV1	HYPOTHETICAL 10.1 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	25-65								
PY108_SSV1	HYPOTHETICAL 10.8 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	4-61								
PY119_SSV1	HYPOTHETICAL 11.9 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	30-78								
PY11K_TYDVA	HYPOTHETICAL 11.2 KD PROTEIN	TOBACCO YELLOW DWARF VIRUS (STRAIN AUSTRALIA)	33-87								
PY13K_NPVAC	HYPOTH 13.1 KD 3'N 39 KD 3'REGION	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	85-112								
PY13K_SSV1	HYPOTHETICAL 13.3 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	59-86								
PY14K_SSV1	HYPOTHETICAL 13.7 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	5-39								
PY16K_NPVAC	HYPOTH 16.39 KD PROTEIN 5'REGION	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	80-107								
PY16K_SSV1	HYPOTHETICAL 15.6 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	77-111								
PY17K_SSV1	HYPOTHETICAL 17.1 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	9-36	118-133							
PY17K_MSVN	HYPOTHETICAL 17.7 KD PROTEIN	MAIZE STREAK VIRUS (NIGERIAN ISOLATE)	34-61								
PY18K_MSVS	HYPOTHETICAL 17.2 KD PROTEIN	MAIZE STREAK VIRUS (SOUTH-AFRICAN ISOLATE)	34-61								
PY20K_SSV1	HYPOTHETICAL 20.4 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	76-103								
PY23K_SSV1	HYPOTHETICAL 23.5 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	93-164								
PY2_SOCMV	HYPOTHETICAL PROTEIN 2	SOYBEAN CHLOROTIC MOTTLE VIRUS	118-148								
PY31K_SSV1	HYPOTHETICAL 31.3 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	24-97								
PY32K_SSV1	HYPOTHETICAL 31.7 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	233-267								
PY3K_NPVAC	HYPOTHETICAL 37.7 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	173-184								
PY3_SOCMV	HYPOTHETICAL PROTEIN 3	SOYBEAN CHLOROTIC MOTTLE VIRUS	122-149								
PY7_SOCMV	HYPOTHETICAL PROTEIN 7	SOYBEAN CHLOROTIC MOTTLE VIRUS	56-94								
PY83K_SSV1	HYPOTHETICAL 83.7 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	81-121	546-573	658-700						
PY8_SOCMV	HYPOTHETICAL PROTEIN 8	SOYBEAN CHLOROTIC MOTTLE VIRUS	13-40								
PYB01_FOWPM	HYPOTHETICAL BAMHI-ORF1 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	74-108	153-179	184-218						
PYB03_FOWPM	HYPOTHETICAL BAMHI-ORF3 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	62-89								
PYB10_FOWPM	HYPOTHETICAL BAMHI-ORF10 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	162-199	214-241							

PCGENE	167x176x4	All Viruses (no bacteriophages)	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1
ELI_NAME	PROTEIN	VIRUS										
PYB13_FOWPM	HYPOTHETICAL BAMHI-ORF13 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	11-38									
PYB13_FOWPM	HYPOTHETICAL BAMHI-ORF13 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	138-167									
PYB13_FOWPM	HYPOTHETICAL BAMHI-ORF13 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	87-116									
PYBL3_POLMV	BEL 3 PROTEIN	HUMAN SPUMARETROVIRUS	161-188									
PYDH1_HSV37	HYPOTH 24.1 KD IN DNAPL 3'REGION	HERPESVIRUS SAIMIRI (STRAIN 484-77)	52-82									
PYDH1_HSV37	HYPOTH 24.1 KD IN DNAPL 3'REGION	HERPESVIRUS SAIMIRI (SUBGROUP C / STRAIN 488)	55-83									
PYDH1_HSV3C	HYPOTH 24.7 KD IN DNAPL 3'REGION	HERPESVIRUS SAIMIRI (SUBGROUP C / STRAIN 488)	8-35									
PYDH4_HSV3C	HYPOTH 9.9 KD IN DNAPL 5'REGION	FOWLPOX VIRUS (STRAIN FP-1)	170-204									
PYF35_FOWP1	HYPOTHETICAL 35.9 KD PROTEIN	FOWLPOX VIRUS (STRAIN FP-1)	137-64	95-126	144-171							
PYF30_FOWP1	HYPOTHETICAL 30.9 KD PROTEIN	VACCINIA VIRUS (STRAIN WR)	31-58	179-206								
PYH01_VACCV	HYPOTH 31.7 KD HINDIII-C PRO	VACCINIA VIRUS (STRAIN WR)	90-121									
PYH01_VACCV	HYPOTH 31.7 KD HINDIII-C PRO	EPSTEIN-BARR VIRUS (STRAIN B95-8)	19-53									
PYH03_EBV	HYPOTHETICAL BXLF3 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	47-86									
PYH04_EBV	HYPOTHETICAL BXLF4 PROTEIN	HUMAN ADENOVIRUS TYPE 41	27-54									
PYH04_HSV3C	HYPOTH 12.4 KD IN 3'I 3'REGION	EPSTEIN-BARR VIRUS (STRAIN B95-8)	94-143									
PYL13_EBV	HYPOTHETICAL BLRF3 PROTEIN	COMMELINA YELLOW MOTTLE VIRUS	35-76									
PYL01_COYMV	HYPOTHETICAL 25 KD PROTEIN	COMMELINA YELLOW MOTTLE VIRUS	64-94									
PYL01_COYMV	HYPOTHETICAL 25 KD PROTEIN	WHITE CLOVER MOSAIC VIRUS (STRAIN M)	65-95									
PYL01_WCMVM	HYPOTHETICAL 13 KD PROTEIN	WHITE CLOVER MOSAIC VIRUS (STRAIN O)	92-119									
PYL01_WCMVO	HYPOTHETICAL 11 KD PROTEIN	AVIAN ADENOVIRUS GAL1 (STRAIN PHELPS)	23-57									
PYL01_ADE01	HYPOTHETICAL 31.5 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	13-42									
PYL01_TTV1	HYPOTHETICAL 8.1 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	3-31									
PYL01_TTV1	HYPOTHETICAL 26.1 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	4-40									
PYL02_TTV1	HYPOTHETICAL 7.3 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	44-71									
PYL04_TTV1	HYPOTHETICAL 12.1 KD PROTEIN	RICE TUNGRO BACILLIFORM VIRUS	44-71									
PYP13_RTBV	HYPOTHETICAL P13 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES)	44-71	106-157								
PYP24_RTBV	HYPOTHETICAL P24 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS	59-101	106-157								
PYP24_RTBVP	HYPOTHETICAL P24 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES)	51-101	197-231								
PYP46_RTBV	HYPOTHETICAL P46 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS	58-107	197-231								
PYP46_RTBVP	HYPOTHETICAL P46 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES)	58-107	197-231								
PYP63_NPVAC	HYPOTH P40 P6.3 3'REGION	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	44-71									
PYP63_NPVOP	HYPOTH 40.0 KD IN P6.3 3'REGION	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	323-352									
PYP63_NPVAC	HYPOTH 21.6 KD IN POLYHEDRIN 5'REGION	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	116-153									
PYP0L_DMVN	HYPOTHETICAL 17.0 KD PROTEIN	INFECTIOUS PANCREATIC NECROSIS VIRUS (STRAIN N1)	5-32									
PYP0_AMEPV	HYPOTHETICAL PROTEIN IN TK 3'REGION	AMSACTA MOOREI ENTOMOPOXVIRUS	9-37	59-96	136-183							
PYU1_HSV6G	HYPOTHETICAL PROTEIN U1	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	208-235									
PYU1_HSV6G	HYPOTHETICAL PROTEIN U2	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	223-257	268-299								
PYU3_HSV6G	HYPOTHETICAL PROTEIN U3	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	141-168									
PYU3_HSV6G	HYPOTHETICAL PROTEIN U3	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	404-441									
PYU4_HSV6G	HYPOTHETICAL PROTEIN U4	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	10-45									
PYU5_BEV6	REPETITIVE PROTEIN ORF2	CHILD RHEBOVIRUS	7-34									
PYVA0_VACCC	HYPOTHETICAL 9.3 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	81-112									
PYVA0_VACCC	HYPOTHETICAL 14.3 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	28-77									
PYVA8_VACCC	HYPOTHETICAL 8.3 KD PROTEIN	VACCINIA VIRUS (STRAIN WR)	46-77									
PYVC8_VACCV	HYPOTHETICAL 8.5 KD PROTEIN	VACCINIA VIRUS (STRAIN WR)	26-50									
PYVC8_VACCV	HYPOTHETICAL 7.2 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	10-44									
PYVC8_VACCC	HYPOTHETICAL 8.4 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	132-179									
PYZL3_EBV	HYPOTHETICAL BZLF3 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)										

TABLE VII

107 X 178 X 4 SEARCH MOTIF RESULTS SUMMARY

(PREFERRED VIRAL SEQUENCES)

REGION	All Viruses (no bacteriophage)											
DELTABASE	VIRUS											
PDPOL_HSV1A	HERPESVIRUS SAIMIRI (STRAIN 11)	611-612										
PDUT_HSV1A	HERPESVIRUS SAIMIRI (STRAIN 11)	119-213										
PRELI_HSV1A	HERPESVIRUS SAIMIRI (STRAIN 11)	616-449										
PRCII_HSV1A	HERPESVIRUS SAIMIRI (STRAIN 11)	15-81	482-532									
PREU_HSV1A	HERPESVIRUS SAIMIRI (STRAIN 11)	48-76										
PRTM_HSV1A	HERPESVIRUS SAIMIRI (STRAIN 11)	340-386										
PUL1_HSV1A	HERPESVIRUS SAIMIRI (STRAIN 11)	334-351										
PTEGU_HSV1A	HERPESVIRUS SAIMIRI (STRAIN 11)	134-607	635-700	777-814	940-988	990-1017	1463-1493	2102-2135				
PTYMT_HSV1A	HERPESVIRUS SAIMIRI (STRAIN 11)	130-147										
PUL06_HSV1A	VIRION GENE 41 PROTEIN	15-41	102-128	365-402								
PUL25_HSV1A	VIRION GENE 59 PROTEIN	14-41	204-227	362-388								
PUL30_HSV1A	GENE 61 PROTEIN	200-215										
PUL37_HSV1A	GENE 41 PROTEIN	11-43	615-733									
PUL38_HSV1A	PROB DNA REP GENE 56 PROTEIN	130-157										
PUL39_HSV1A	HYPOTHETICAL GENE 57 PROTEIN	9-36										
PUL47_HSV1A	HYPOTHETICAL GENE 34 PROTEIN	503-607										
PUL48_HSV1A	HYPOTHETICAL GENE 33 PROTEIN	97-132										
PUNG_HSV1A	URACIL-DNA GLYCOSYLASE	111-136										
PVCAP_HSV1A	MAJOR CAPSID PROTEIN	168-198										
PVG41_HSV1A	HYPOTHETICAL GENE 41 PROTEIN	118-165										
PVG48_HSV1A	HYPOTHETICAL GENE 48 PROTEIN	160-194										
PVG53_HSV1A	HYPOTHETICAL GENE 53 PROTEIN	47-74										
PVGLH_HSV1A	GLYCOPROTEIN H PRECURSOR	110-411										
PVM_HSV1A	INTEGRAL MEMBRANE PROTEIN	90-107										
PVP21_HSV1A	PROBABLE CAPSID PROTEIN VP21	2-29										
PVP40_HSV1A	CAPSID PROTEIN VP26	46-71										
PVP48_HSV1A	CAPSID PROTEIN P40	285-313	364-392									
PVP55_HSV1A	PROBABLE MEMBRANE ANTIGEN 35	101-208	628-693									
ZDNBI_HSV1A	MAJOR DNA-BINDING PROTEIN	111-161	113-139									
PCGIII_HSV1A	CYCLIN HOMOLOG	127-174										
PTDIII_HSV17	HYPOTHETICAL 141 KD IN DIPA 3'REGION	101-116										
PTDIII_HSV2E	HYPOTHETICAL 141 KD IN DIPA 3'REGION	11-81										
PTDIII_HSV2C	HYPOTHETICAL 89 KD IN DIPA 3'REGION	11-31										
PENV_MLVMO	ENV POLYPROTEIN	110-146										
PDPOL_MCMVA	DNA POLYMERASE	751-766										
PCII_MCMVA	PROB PROC A TRANSPORT PRO UL14	104-124										
PUL01_MCMVA	HYPOTHETICAL PROTEIN UL5	13-40										
PUL11_MCMVA	HYPOTHETICAL PROTEIN UL11	14-143										
PUL21_MCMVA	HYPOTHETICAL PROTEIN UL21	11-43										
PUL27_MCMVA	RIBONUC-DIHYDROPYRI REDUCT LARGE CHA	611-640										
PTEGU_MCMVA	PROBABLE LARGE TEGUMENT PROTEIN	1251-1281	2203-2230									
PUL01_MCMVA	HYPOTHETICAL PROTEIN UL1	6-47										
PUL13_MCMVA	HYPOTHETICAL PROTEIN UL13	103-134										
PUL18_MCMVA	HYPOTHETICAL PROTEIN UL18	11-113										
PUL30_MCMVA	HYPOTHETICAL UL30 PRECURSOR	14-41										
PUL31_MCMVA	HYPOTHETICAL PROTEIN UL31	187-194	214-239									
PUL33_MCMVA	HYPOTHETICAL PROTEIN UL33	135-162										
PUL47_MCMVA	PROTEIN UL47	114-148	441-455	761-790	802-833							
PUL49_MCMVA	PROTEIN UL49	119-186										
PUL55_MCMVA	HYPOTHETICAL PROTEIN UL55	12-101										
PUL79_MCMVA	PROB DNA REP PROTEIN UL79	61-92										
PUL71_MCMVA	UL71 GLYCOPROTEIN PRECURSOR	1-71										
PUL74_MCMVA	HYPOTHETICAL PROTEIN UL74	65-98										
PUL77_MCMVA	PROTEIN UL77	36-53	114-141									
PUL95_MCMVA	HYPOTHETICAL PROTEIN UL95	123-131										
PUL104_MCMVA	VIRION PROTEIN UL104	6-31	441-477									
PUL119_MCMVA	HYPOTHETICAL PROTEIN UL119	11-38										

PCGENE	Entitled	All Viruses (or bacteriophages)	ABEA1	ABEA1	ABEA1	ABEA1	ABEA1	ABEA1	ABEA1	ABEA1	ABEA1	ABEA1	ABEA1	ABEA1
TITLE NAME	PROTEIN	VIRUS	218-345	439-461										
POL_HV1G7	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (GV1 ISOLATE)	543-594	611-633	791-818									
ENV_HV1P7	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	336-357	611-633										
POL_HV1P7	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	1-48											
PVU_HV1P7	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	306-367	331-358	554-603	648-693	806-853							
ENV_HV1UN	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NUMAT ISOLATE)	217-244	611-648										
POL_HV1UN	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NUMAT ISOLATE)	62-89											
VIF_HV1UN	VIRION INFECTIVITY FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NUMAT ISOLATE)	336-365	363-393	631-683									
ENV_HV1JC	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JRC ISOLATE)	335-363	336-383	632-674	703-800								
ENV_HV1I1	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BF162 ISOLATE)	23-49											
PVU_HV1I1	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BF162 ISOLATE)	341-389	427-479	707-815									
ENV_HV1I5	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (3595 ISOLATE)	336-361	331-390	633-677	776-822								
ENV_HV1CB	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRAIN ES-1-GP35)	215-244	111-140	610-660									
POL_HV1UM	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (STRAIN UGANDAN / ISOLATE U)	338-365	363-393	631-683	791-818								
ENV_HV1W1	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (WMJ1 ISOLATE)	336-361	116-364	632-674	703-800								
ENV_HV1Z6	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAM ISOLATE)	340-367	331-401	634-676	797-835								
ENV_HV1Z2	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELICOC-134 ISOLATE)	335-396	161-391	633-680	796-810								
POL_HV1Z2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELICOC-134 ISOLATE)	337-364	619-646										
ENV_HV1Z1	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE 1 ISOLATE)	335-393											
ENV_HV1Z4	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE 4 ISOLATE)	336-387	561-592	610-662	792-833								
REF_HV1Z4	NEGATIVE FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE 4 ISOLATE)	486-514											
ENV_HV1Z8	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE 8 ISOLATE)	340-394	617-666	791-823									
ENV_HV1BE	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE BEN)	61-88	331-391	621-643	613-697								
GAG_HV1BE	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE BEN)	106-133											
POL_HV1BE	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE BEN)	491-582											
ENV_HV2CA	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE CAM2)	336-383	631-650	615-699									
POL_HV2CA	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE CAM2)	217-567											
ENV_HV2D1	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D194)	61-88	731-750	555-582	644-688								
GAG_HV2D1	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D194)	106-133											
POL_HV2D1	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D194)	109-600											
POL_HV2D2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D205.7)	491-568											
ENV_HV2G1	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE GHANA-1)	46-87	334-351	556-583	611-640	645-693							
POL_HV2G1	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE GHANA-1)	471-562											
ENV_HV2N2	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NIH-Z)	61-88	324-351	556-583	611-640	643-689							
GAG_HV2N2	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NIH-Z)	106-133											
POL_HV2N2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NIH-Z)	471-559											
ENV_HV2R0	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD)	51-78	335-392	622-698									
POL_HV2R0	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD)	481-561											
ENV_HV2S8	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE SBL/ISY)	337-384	614-671										
POL_HV2S8	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE SBL/ISY)	473-561											
ENV_HV2T1	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE 31)	445-476	337-356	558-586	648-693								
GAG_HV2T1	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE 31)	98-125											
POL_HV2T1	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE 31)	491-582											
ENV_HV2S1	ENV POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE SI720 TCID)	445-476	327-354	559-586	641-692								
PVE1_HPV11	PROBABLE E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	11-60											
PVE1A_HPV11	PROBABLE E1A PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	10-60											
PVE2_HPV11	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	137-184	134-161										
PVE3_HPV11	E3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	61-105	113-141										
PVE4_HPV11	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	64-91											
PVE1_HPV16	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	60-87											
PVE2_HPV16	E2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	135-186											
PVE4_HPV16	PROBABLE E4 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	59-86											
PVE5_HPV16	E5 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	75-102											
VL1_HPV16	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	183-230											
PVE3_HPV16	E3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	159-186											
VL3_HPV1A	PROBABLE L3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 1A	407-445											
PVE1_HPV1A	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 1A	21-48											

FCGENE	10121814	All Viruses (no bacteriophage)								
FILENAME	PROTEIN	VIRUS	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1
PMEM_1AONY	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/NEW YORK/1972)	21-55							
PMEM_1AOKE	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/NEW ZEALAND/1976)	181-411							
PVNUC_1AOKE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/NEW ZEALAND/1976)	116-465							
PMEM_1AOUI	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/UKRAINE/1963)	21-55							
PMEM_1AOUD	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/UKRAINE/1963)	117-451							
PVNUC_1AOUI	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/UKRAINE/1963)	116-465							
PVNUC_1AENI	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/ENGLAND/1935)	116-465							
PMEM_1AENT	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/ENGLAND/1972)	48-67	117-451						
PMEM_1AENA	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/ENGLAND/1949)	14-31							
PMEM_1AEUL	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/ALGER/1972)	186-412							
PMEM_1AEC0	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/C DETROIT/1994)	19-36	194-211	388-413					
PMEM_1AEC4	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/CAMBRIDGE/1963)	19-36	194-211	388-413					
PMEM_1AEC7	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/CAMBRIDGE/1972)	19-36	194-211	388-413					
PMEM_1AEC0	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/COLORADO/1974)	197-224	388-413						
PMEM_1AEN8	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/PRAGUE/1956)	19-36	194-211	388-413					
PMEM_1AEQ0	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/FONTAINEBLEAU/1979)	19-36	194-211	388-413					
PVNUC_1AUU	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/ILLINOIS/1956)	116-465							
PNRAM_1AUK1	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/EQUINE/KENTUCKY/1981)	5-44							
PMEM_1AUK7	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/KENTUCKY/1981)	19-36	194-211	388-413					
PMEM_1AUK6	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/KENTUCKY/1986)	19-36	194-211	388-413					
PMEM_1AUL6	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/LEXINGTON/1994)	19-36	194-211	388-457					
PMEM_1AUL0	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/LONDON/1414/71)	19-36	194-211	388-457					
PDUT_1AUL0	RNA-DIRECTED RNA POL SUB PJ	INFLUENZA A VIRUS (STRAIN A/EQUINE/LONDON/1414/71)	119-146							
PVNUC_1AUL0	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/LONDON/1414/71)	116-465							
PMEM_1AUN1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/MIAMI/1963)	186-433							
PVNUC_1AUN1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/MIAMI/1963)	116-465							
PMEM_1AUN4	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/NEW MARKET/1977)	19-36	194-211	388-457					
PMEM_1AUN4	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/NEW MARKET/1976)	186-433							
PMEM_1AUPR	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/PRAGUE/1956)	19-36	194-211	388-413					
PDUT_1AUPR	RNA-DIRECTED RNA POL SUB PJ	INFLUENZA A VIRUS (STRAIN A/EQUINE/PRAGUE/1956)	131-158	410-437						
PVNUC_1AUPR	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/PRAGUE/1956)	116-465							
PMEM_1AUR0	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/ROMANIA/A/90)	186-433							
PMEM_1AUSA	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/SANTIAGO/1963)	186-433							
PMEM_1AUSP	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/SAO PAULO/1976)	19-36	194-211	388-457					
PMEM_1AUTE	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/TENNESSEE/1944)	186-432							
PDUT_1AUTE	RNA-DIRECTED RNA POL SUB PJ	INFLUENZA A VIRUS (STRAIN A/EQUINE/TENNESSEE/1944)	119-146							
PVNUC_1AUTE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/TENNESSEE/1944)	116-465							
PMEM_1AUTO	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/TOKYO/71)	186-435							
PMEM_1AUR	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/URUGUAY/1963)	186-432							
PVNS1_1AV0M	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/FORT MONMOUTH/1947)	111-196							
PVNUC_1AV0M	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/FORT MONMOUTH/1947)	116-465							
PVNS1_1AV0W	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/FORT WARREN/1950)	111-196							
PVNUC_1AV0W	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/FORT WARREN/1950)	116-465							
PVNUC_1AV0D	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/FOWL VIRUS/DOBSON/DUTCH/27)	116-465							
PMEM_1AV0R	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK/34)	117-131	184-443						
PDUT_1AV0R	RNA-DIRECTED RNA POL SUB PJ	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK/34)	119-146							
PVNUC_1AV0R	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK/34)	116-465							
PNRAM_1AV0W	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/WEYBRIDGE)	10-48	197-224						
PMEM_1AG0B	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/GREY TEAL/AUSTRALIA/2/79)	181-411							
PVNUC_1AG0B	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GREY TEAL/AUSTRALIA/2/79)	116-465							
PMEM_1AGUA	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/GUILEMOT/AUSTRALIA/2/79)	504-531							
PVNUC_1AG1A	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GUILEMOT/AUSTRALIA/2/79)	116-465							
PVNUC_1AG1T	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GULLMAR/TURKU/1/79)	116-465							
PVNUC_1AG0J	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GULLMAR/TURKU/1/79)	116-465							
PMEM_1AG0J	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/GULLMAR/TURKU/1/79)	181-533							
PDUT_1AG0J	RNA-DIRECTED RNA POL SUB PJ	INFLUENZA A VIRUS (STRAIN A/GULLMAR/TURKU/1/79)	119-146							

PCCLINE	[07]17[14]	All Viruses (no bacteriophage)								
ERA_MLVAV	PROTEIN	VIRUS	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1
ENV_MLVEJ	ENV POLYPROTEIN	KOLSTEN MURINE LEUKEMIA VIRUS	40-81							
PYGLB_HSVMO	GLYCOPROTEIN B PRECURSOR	HARLEY'S DISEASE HERPESVIRUS (STRAIN RB-1B)	93-120	132-379						
PENV_MCFF	ENV POLYPROTEIN	MINK CELL FOCUS-FORMING MURINE LEUKEMIA VIRUS	475-512							
PENV_MCFFJ	ENV POLYPROTEIN	MINK CELL FOCUS-FORMING MURINE LEUKEMIA VIRUS (ISOLATE CI-3)	488-515							
PENV_MLVMO	ENV POLYPROTEIN	MOLONEY MURINE LEUKEMIA VIRUS	507-541							
PDNB1_MCMVS	MAJOR DNA-BINDING PROTEIN	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	344-611							
PCI1B_MCMVS	PROB PROC & TRANSPORT PRO	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	681-691							
PYGLB_MCMVS	GLYCOPROTEIN B PRECURSOR	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	381-408	441-475						
YBE1_MCMVS	IMMEDIATE EARLY PROTEIN 1	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	381-388							
PYE2_PCPVI	E2 PROTEIN	PYGMY CHIMPANZEE PAPILLOMAVIRUS TYPE 1	287-294	337-361						
PYE1_PCPVI	PROBABLE E1 PROTEIN	PYGMY CHIMPANZEE PAPILLOMAVIRUS TYPE 1	33-43							
PENV_MLVRD	ENV POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS	497-538							
PPOL_MLVRD	POL POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS	716-745	803-832						
PENV_MLVRK	ENV POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS (STRAIN KAPLAN)	497-538							
PPOL_MLVRK	POL POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS (STRAIN KAPLAN)	101-138	190-217						
PDNB1_MCMVC	MAJOR DNA-BINDING PROTEIN	SIMIAN CYTOMEGALOVIRUS (STRAIN COLBURN)	431-463	532-559						
PPOL2_IDAVS	GENOME POLYPROTEIN	SIMIAN HEPATITIS A VIRUS (STRAIN AGM-27)	280-301	1015-1053	1115-1197					
PPOL2_IDAVT	GENOME POLYPROTEIN	SIMIAN HEPATITIS A VIRUS (STRAIN CY-145)	281-322							
PENV_SIVAI	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM155 ISOLATE)	268-310	561-588	592-619	652-679	697-724			
PPOL_SIVAI	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM155 ISOLATE)	431-458	543-554	617-643					
PPOL_SIVAJ	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM144 ISOLATE)	47-73							
PENV_SIVAO	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM1 ISOLATE)	280-301	566-593	597-624	658-685	701-710			
PPOL_SIVAO	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM1 ISOLATE)	436-463	632-649						
PENV_SIVAS	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM3 ISOLATE)	71-98							
PENV_SIVAM	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM3 ISOLATE)	280-301	537-553	642-669	697-718				
PGAG_SIVAJ	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM144 ISOLATE)	98-115							
PPOL_SIVAJ	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM144 ISOLATE)	496-523							
PENV_SIVAO	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM1 ISOLATE)	280-301	566-593	597-624	658-685	701-710			
PPOL_SIVAO	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM1 ISOLATE)	436-463	632-649						
PENV_SIVAG	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM1 CLONE GRI-1)	280-301	537-553	642-669	697-718				
PGAG_SIVAJ	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM1/CLONE GRI-1)	98-115							
PPOL_SIVAJ	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM1/CLONE GRI-1)	496-523							
PENV_SIVAJ	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM1/CLONE GRI-1)	280-301	566-593	597-624	658-685	701-710			
PGAG_SIVAJ	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM1/CLONE GRI-1)	98-115							
PNEF_SIVAJ	NEGATIVE FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM1/CLONE GRI-1)	191-207	237-261	262-289	317-344	362-389			
PPOL_SIVAJ	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM1/CLONE GRI-1)	436-463	632-649						
VIF_SIVAJ	VIRION INFECTIVITY FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM1/CLONE GRI-1)	96-123							
PENV_SIVGB	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE GB1)	280-301	537-553	642-669	697-718				
PPOL_SIVGB	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE GB1)	436-463	632-649						
PENV_SIVGK	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (K6W ISOLATE)	280-301	537-553	642-669	697-718				
PGAG_SIVGK	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (K6W ISOLATE)	98-115							
PPOL_SIVGK	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (K6W ISOLATE)	436-463	632-649						
PENV_SIVML	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (K78 ISOLATE)	280-301	537-553	642-669	697-718				
PGAG_SIVML	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (K78 ISOLATE)	98-115							
PPOL_SIVML	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (K78 ISOLATE)	496-523							
PENV_SIVMM	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (MM142-83 ISOLATE)	280-301	537-553	642-669	697-718				
PGAG_SIVMM	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (MM142-83 ISOLATE)	98-115							
PPOL_SIVMM	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (MM142-83 ISOLATE)	496-523							
PENV_SIVMN	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PBJSC1 ISOLATE)	280-301	537-553	642-669	697-718				
PGAG_SIVMN	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PBJSC1 ISOLATE)	98-115							
PPOL_SIVMN	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PBJSC1 ISOLATE)	496-523							
PENV_SIVMS	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (STM1 ISOLATE)	280-301	537-553	642-669	697-718				
PGAG_SIVMS	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (STM1 ISOLATE)	98-115							
PPOL_SIVMS	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (STM1 ISOLATE)	496-523							
PENV_SIVAT	ENV POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	280-301	537-553	642-669	697-718				
PPOL_SIVAT	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	436-463	632-649						
PREV_SIVAT	REV PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	41-68							
PENV_HPMV	ENV POLYPROTEIN	SIMIAN MACAQUE PFIZER VIRUS	412-440	570-597						
PPOL_HPMV	POL POLYPROTEIN	SIMIAN MACAQUE PFIZER VIRUS	1174-1213	1339-1369						
PGAG_HPMV	GAG POLYPROTEIN	SIMIAN MACAQUE PFIZER VIRUS (HPMV)	323-360							
PEXON_VZVD	ALKALINE EXONUCLEASE	VARICELLA ZOSTER VIRUS (STRAIN DUMAS)	199-139							
PHELI_VZVD	PROBABLE HELICASE	VARICELLA ZOSTER VIRUS (STRAIN DUMAS)	490-517							
PRIR1_VZVD	RIBONUC-DIPHOSPHI REDUCT LARGE CHA	VARICELLA ZOSTER VIRUS (STRAIN DUMAS)	701-728							
PTEGU_VZVD	LARGE TEGUMENT PROTEIN	VARICELLA ZOSTER VIRUS (STRAIN DUMAS)	118-144							
PHYTH_VZVD	HYPOTHETICAL GENE 46 PROTEIN	VARICELLA ZOSTER VIRUS (STRAIN DUMAS)	41-68							
PUL21_VZVD	GENE 21 PROTEIN	VARICELLA ZOSTER VIRUS (STRAIN DUMAS)	1121-1153							
			64-101							
			330-407							

PCGENE	[101]1[1]1[1]	All Viruses (no bacteriophage) [2]									
FILE_NAME	PROTEIN	VIRUS									
PUL11_VZVB	VIRION GENE 21 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)									
PUL11_VZVB	GENE 11 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)									
PUL11_VZVB	HOST [HUMAN] VIRION PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)									
PUL11_VZVB	GENE 11 HOMOLOGUE PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)									
PUL11_VZVB	PROB DNA REP GENE 8 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)									
PVGLC_VZVB	GLYCOPROTEIN GPV	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)									
PP90_VZVB	CAPSID PROTEIN P40	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)									
PVTA8_VZVB	PROBABLE DNA PACKAGING PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)									
PVGLC_VZVS	GLYCOPROTEIN GPV	VARICELLA-ZOSTER VIRUS (STRAIN SCOTT)									
PDPOL_WHV1	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 1									
PDPOL_WHV9	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 9									
PDPOL_WHV2	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 2									
PDPOL_WHV8	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 8									
PDPOL_WHV3	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 3									

TABLE VIII

107 X 178 X 4 SEARCH MOTIF RESULTS SUMMARY

FOR ALL PROCARYOTIC PROTEINS

YCGENE	1097:17Red	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
TLE_MAIZE	PROTEIN	ORGANISM	13-110	240-298	355-382	638-672	746-838	1168-1202			
P120K_RICRI	120 KD SURFACE EXPOSED PROTEIN	RICKETTSIA RICKETTSII	67-94								
P17K_RICTY	17 KD ANTIGEN PRECURSOR	RICKETTSIA TYPHI	241-268	460-487	607-634	754-781	829-856	904-931	1220-1254	1544-1571	1723-1750
P190K_RICRI	190 KD ANTIGEN PRECURSOR (CELL SURFACE)	RICKETTSIA RICKETTSII	2065-2096	2131-2168							
P22KD_DESMO	22.6 KD PROTEIN	DESULFUROCOCCUS MOBILIS	25-52	59-89	120-147						
P40KD_VIBAN	40 KD PROTEIN PRECURSOR	VIBRIO ANGUILLARUM	153-196								
P40KD_ECOLI	40 KD INNER-MEMBRANE PROTEIN	ESCHERICHIA COLI 1	311-338								
P40KD_PROMI	40 KD INNER-MEMBRANE PROTEIN	PROTEUS MIRABILIS	14-41								
P41KD_ZYMMO	41 KD PROTEIN	ZYMOMONAS MOBILIS	95-122	444-524							
P43KD_BACSU	P43 KD 6-PHOSPHOGLUCONATE DEHYDROGENASE	BACILLUS SUBTILIS	24-51	218-246							
P49KD_ECOLI	P43 KD 6-PHOSPHOGLUCONATE DEHYDROGENASE	ESCHERICHIA COLI	205-232								
P49KD_SALTY	6-PHOSPHOGLUCONATE DEHYDROGENASE	SALMONELLA TYPHIMURIUM	205-232								
P6PGD_STAAU	6-PHOSPHOGLUCONATE DEHYDROGENASE	STAPHYLOCOCCUS AUREUS	450-477								
PAACA_STAAU	6-AMINOGLYCOSIDE N-ACETYLTRANSFERASE	STAPHYLOCOCCUS AUREUS	146-173	185-212							
PAAT_BACSP	ASPARTATE AMINOTRANSFERASE	BACILLUS SP	331-378								
PAAT_ECOLI	ASPARTATE AMINOTRANSFERASE	ESCHERICHIA COLI	176-203								
PABC_ECOLI	ABC PROTEIN	ESCHERICHIA COLI	85-126	170-204	209-273						
PABIC_LACLA	ABORTIVE PHAGE RESISTANCE PROTEIN ABIC	LACTOCOCCUS LACTIS	137-154								
PACC_AGRTU	TRANSCRIPTIONAL REPRESSOR ACCR	AGROBACTERIUM TUMEFACIENS	390-432								
PACEA_ECOLI	ISOCITRATE LYASE	ESCHERICHIA COLI	48-75								
PACON_BACSU	ACONITATE HYDRATASE	BACILLUS SUBTILIS	41-68	613-640							
PACON_ECOLI	ACONITATE HYDRATASE	ESCHERICHIA COLI	85-112								
PACON_ALCEU	ACETOIN CATABOLISM REG PRO	ALCALIGENES EUTROPHUS	4-31								
PACP_ECOLI	ACYL CARRIER PROTEIN	ESCHERICHIA COLI	213-247								
PACRA_ECOLI	ACRIFLAVIN RESISTANCE PROTEIN A PRECURSOR	ESCHERICHIA COLI	520-551								
PACRB_ECOLI	ACRIFLAVIN RESISTANCE PROTEIN B	ESCHERICHIA COLI	512-550	726-753							
PACRF_ECOLI	ACRIFLAVIN RESISTANCE PROTEIN F	ESCHERICHIA COLI	137-184								
PACT3_STRCO	PUTATIVE KETOACYL REDUCTASE	STREPTOMYCES COELICOLOR	237-264	376-403							
PACTA_LISMO	ACTIN-ASSEMBLY INDUCING PROTEIN PRECURSOR	LISTERIA MONOCYTOGENES	1129-1163								
PACV3_NOCLA	ACV SYNTHETASE	NOCARDIA LACTAMDURANS	136-170								
PADAA_BACSU	METHOSTRESTER-DNA ALKYLTRANSFERASE	BACILLUS SUBTILIS	398-425	454-481	522-556	1003-1032					
PADDA_BACSU	ATP-DEPENDENT NUCLEASE SUBUNIT A	BACILLUS SUBTILIS	257-284	876-903	943-977						
PADDB_BACSU	ATP-DEPENDENT NUCLEASE SUBUNIT B	BACILLUS SUBTILIS	284-311								
PADHI_CLOAB	NADPH-DEPENDENT BUTANOL DEHYDROGENASE	CLOSTRIDIUM ACETOBUTYLICUM	298-325								
PADHA_CLOAB	NADH-DEPENDENT BUTANOL DEHYDROGENASE A	CLOSTRIDIUM ACETOBUTYLICUM	298-325								
PADHB_CLOAB	NADH-DEPENDENT BUTANOL DEHYDROGENASE B	CLOSTRIDIUM ACETOBUTYLICUM	637-680	779-806							
PADHE_CLOAB	ALCOHOL DEHYDROGENASE	CLOSTRIDIUM ACETOBUTYLICUM	271-298								
PADHE_ECOLI	ALCOHOL DEHYDROGENASE	ESCHERICHIA COLI	45-72								
PADIY_ECOLI	PUTATIVE REGULATORY PROTEIN ADIY	ESCHERICHIA COLI	90-131	697-724	923-950	990-1017	1169-1199	1387-1414			
PADPT_MYCGE	140 KD ADHESIN PRECURSOR	MYCOPLASMA GENITALIUM	1535-1584								
PADPT_MYCPN	ADHESIN P1 PRECURSOR	MYCOPLASMA PNEUMONIAE	276-307								
PADT_AERPA	ADIPATE CARRIER PROTEIN	RICKETTSIA PROWAZEKII	278-305								
PADX_AERHY	AEROLYSIN PRECURSOR	AEROMONAS HYDROPHILA	419-483	597-633							
PAGAL_STRMU	ALPHA-GALACTOSIDASE	STREPTOCOCCUS MUTANS	26-53								
PAGAT_PSEAT	BETA-AGARASE PRECURSOR	PSEUDOMONAS ATLANTICA	129-159	165-192							
PAGR_STAAU	ACCESSORY GENE REGULATOR PROTEIN	STAPHYLOCOCCUS AUREUS	19-46								
PAL_YEREN	ATTACH INVAS LOCUS PROTEIN PRECURSOR	YERSINIA ENTEROCOLITICA	330	466-493	503-530						
PALTH_ECOLI	ASPARTOKINASE I	ESCHERICHIA COLI	51-78	608-635							
PAK2H_ECOLI	ASPARTOKINASE II	ESCHERICHIA COLI	266-312								
PAK3_BACSU	ASPARTATE KINASE II ALPHA AND BETA SUBUNITS	BACILLUS SUBTILIS	5-32								
PALAB_CORGL	ASPARTATE KINASE ALPHA AND BETA SUBUNITS	CORYNEBACTERIUM GLUTAMICUM	286-316								
PALF_ECOLI	FRUCTOSE-BISPHOSPHATE ALDOLASE	ESCHERICHIA COLI	160-194								
PALG_PSEAE	ALGINATE BIOSYN TRANSL REG PROTEIN ALGB	PSEUDOMONAS AERUGINOSA	349-376								
PALGB_PSEAE	ALGINATE PRODUCTION PROTEIN ALGE PRECURSOR	PSEUDOMONAS AERUGINOSA	81-115								
PALGP_PSEAE	TRANSCRIPTIONAL REGULATORY PROTEIN ALGP	PSEUDOMONAS AERUGINOSA	115-142								
PALK1_PSEAL	ALKANE-1 MONOOXYGENASE	PSEUDOMONAS OLEOVORANS	138-172	338-365							
PALKT_PSEOL	RUBREDOXIN-NAD(+) REDUCTASE	PSEUDOMONAS OLEOVORANS	9-36								
PALU_ECOLI	ALANINE RACEMASE, CATABOLIC PRECURSOR	ESCHERICHIA COLI									

PGENE	107x17844	Prolargelin Sequences								
ELLE NAME	PROTEIN	ORGANISM	AREA1 -	AREA1	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PALR_BACST	ALANINE RACEMASE	BACILLUS STEAROTHERMOPHILUS	326-355							
PALR_BACSU	ALS OPERON REGULATORY PROTEIN	BACILLUS SUBTILIS	119-146							
PALS2_BACSU	AUTOLYSIN PRECURSOR	BACILLUS SP	137-187							
PALY2_BACSP	AUTOLYSIN PRECURSOR	BACILLUS SUBTILIS	137-191							
PALY2_BACSU	AUTOLYSIN PRECURSOR	STAPHYLOCOCCUS AUREUS	244-271							
PALY2_STAAU	AUTOLYSIN	STREPTOCOCCUS PNEUMONIAE	233-264	297-338	446-493					
PAMA_STRPN	AMA PROTEIN PRECURSOR	PSEUDOMONAS CHLORORAPHIS	72-99							
PAMD_PSECL	AMIDASE	STREPTOCOCCUS PNEUMONIAE	183-214							
PAME_STRPN	OLIGOPEPTIDE TRANSPORT PROTEIN AMIE	ESCHERICHIA COLI	111-138	199-226						
PAMPA_ECOLI	AMINOPEPTIDASE A/I	SERRATIA MARCESCENS	231-256							
PAMPC_SERMA	BETA-LACTAMASE PRECURSOR	RICKETTSIA PROWAZEKII	3-47	72-99						
PAMPI_RICPR	CYTOSOL AMINOPEPTIDASE	ESCHERICHIA COLI	635-682							
PAMPN_ECOLI	AMINOPEPTIDASE N	ESCHERICHIA COLI	116-137							
PAMPP_ECOLI	X-PRO AMINOPEPTIDASE	THERMUS AQUATICUS	281-308							
PAMPT_THEAQ	AMINOPEPTIDASE T	DICTYOGLOMUS THERMOPHILUM	507-534							
PAMT1_DICTH	ALPHA-AMYLASE 1	DICTYOGLOMUS THERMOPHILUM	131-178	507-534						
PAMT2_DICTH	ALPHA-AMYLASE 2	SALMONELLA TYPHIMURIUM	76-104							
PAMT3_SALTY	CYTOPLASMIC ALPHA-AMYLASE	DICTYOGLOMUS THERMOPHILUM	280-307							
PAMT3_DICTH	ALPHA-AMYLASE 3	BACILLUS CIRCULANS	61-88							
PAMT8_BACCI	BETA-AMYLASE PRECURSOR	BACILLUS POLYMYXA	66-87	366-393	1143-1184					
PAMY0_BACPO	BETA-AMYLASE	CLOSTRIDIUM THERMOSULFUROGENES	269-296	378-405	458-486					
PAMY0_CLOSP	BETA-AMYLASE, THERMOPHILIC PRECURSOR	BACILLUS STEAROTHERMOPHILUS	103-148	480-510						
PAMY0_CLOTU	GLUCOAMYLASE PRECURSOR	BACILLUS SP	426-453							
PAMY1_BACST	MALTOGENIC ALPHA-AMYLASE PRECURSOR	BACILLUS SP	210-237	435-465	615-642					
PAMY2_BACSP	RAW-STARCH-DIGESTING AMYLASE	AEROMONAS HYDROPHILA	415-453							
PAMY_AERHY	ALPHA-AMYLASE PRECURSOR	ALTEROMONAS HALOPLANKTIS	166-193							
PAMY_ALTHA	ALPHA-AMYLASE PRECURSOR	BACILLUS AMYLOLIQUEFACIENS	102-136							
PAMY_BACAM	ALPHA-AMYLASE PRECURSOR	BACILLUS CIRCULANS	212-239	437-474						
PAMY_BACCI	ALPHA-AMYLASE PRECURSOR	BACILLUS MEGATERIUM	61-88	441-482						
PAMY_BACME	ALPHA-AMYLASE PRECURSOR	BACILLUS SUBTILIS	165-205	381-308						
PAMY_BACSU	ALPHA-AMYLASE PRECURSOR	BUTYRIVIBRIO FIBRISOLVENS	377-418	546-573	579-606	795-822				
PAMY_BUTFI	PUTATIVE ALPHA-AMYLASE	CLOSTRIDIUM ACETOBUTYLICUM	283-310							
PAMY_CLOAB	ALPHA-AMYLASE PRECURSOR	CLOSTRIDIUM THERMOSULFUROGENES	431-468	613-642						
PAMY_CLOTU	ALPHA-AMYLASE PRECURSOR	STREPTOMYCES LIMOSUS	173-200							
PAMY_STRLM	ALPHA-AMYLASE PRECURSOR	AZOTOBACTER VINELANDII	233-259							
PANFA_AZOVI	NITROGEN FIXATION PROTEIN ANFA	AZOTOBACTER VINELANDII	95-122							
PANFD_AZOVI	NITROGENASE IRON-IRON PROTEIN ALPHA CHAIN	AZOTOBACTER VINELANDII	369-396							
PANFK_AZOVI	NITROGENASE IRON-IRON PROTEIN BETA CHAIN	VIBRIO ANGUILLARUM	93-120	169-203						
PANGR_VIBAN	ANGR PROTEIN	FREMYELLA DIPLOSIPHON	31-78							
PAPCB_FREDI	PHYCOBILISOME 120 KD LINKER POLYPEPTIDE	SYNECHOCOCCUS SP	37-64	383-415						
PAPCB_SYNPX	PHYCOBILISOME LINKER POLYPEPTIDE	SYNECHOCYSTIS SP	52-79							
PAPCB_SYNY4	PHYCOBILISOME 120 KD LINKER POLYPEPTIDE	SALMONELLA TYPHIMURIUM	62-89							
PAPHC_SALTY	ALKYL HYDROPEROXIDE REDUCTASE C22 PROTEIN	ACHROMOBACTER LYTICUS	478-505							
PAP_ACHLY	PROTEASE I PRECURSOR	ESCHERICHIA COLI	118-148							
PAPHC_ECOLI	PROBABLE CYTOCHROME OXIDASE SUBUNIT I	PSEUDOMONAS AERUGINOSA	418-450							
PAPRD_PSEAE	ALKALINE PROTEASE SECRETION PROTEIN APRD	PSEUDOMONAS AERUGINOSA	133-193	208-233	247-277					
PAPRE_PSEAE	ALKALINE PROTEASE SECRETION PROTEIN APRE	ESCHERICHIA COLI	121-148							
PAPT_ECOLI	ADENINE PHOSPHORIBOSYLTRANSFERASE	THERMOANAEROBACTER ETHANOLICUS	276-303	347-374	916-982	987-1014	1210-1234	1381-1408		
PAPU_THEET	ALPHA-AMYLASE PULLULANASE PRECURSOR	MYCOPLASMA ARGININI	60-87	218-245						
PARCA_MYCAR	ARGININE DEIMINASE	ESCHERICHIA COLI	102-130	302-329	399-426					
PARCB_ECOLI	AEROBIC RESPIRATION CONTROL PROTEIN ARCB	PSEUDOMONAS AERUGINOSA	274-301	386-420						
PARCD_PSEAE	PROBABLE ARGININE/ORNITHINE ANTIPORTER	ESCHERICHIA COLI	82-109							
PARGA_ECOLI	AMINO-ACID ACETYLTRANSFERASE	ESCHERICHIA COLI	84-111							
PARGT_ECOLI	LYS-ARG-ORN-BINDING PROTEIN (LAO) PRECURSO	STAPHYLOCOCCUS AUREUS	86-120							
PAROA_STAAU	PHOSPHORIBOSYLAMINE 1-CARBOXYVINYLTRANSFER	ESCHERICHIA COLI	68-95							
PAROC_ECOLI	CHORISMATE SYNTHASE	SALMONELLA TYPHI	68-95							
PAROC_SALTI	CHORISMATE SYNTHASE	BACILLUS SUBTILIS	48-76							
PAROD_BACSU	DEHYDROQUINATE DEHYDRATASE									

PCGENE	10Jul18s4	Prokaryotic Sequences									
ELF NAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PAROK_ECOLI	SHIKIMATE KINASE I	ESCHERICHIA COLI	84-118								
PAQU1_STRPY	IGA RECEPTOR PRECURSOR	STREPTOCOCCUS PYOGENES	12-48	127-157	266-324						
PARF_ECOLI	ARF PROTEIN	ESCHERICHIA COLI	235-282								
PARA_ECOLI	ARSENICAL PUMP DRIVING ATPASE	ESCHERICHIA COLI	201-238								
PARB_ECOLI	ARSENICAL PUMP MEMBRANE PROTEIN	ESCHERICHIA COLI	291-318								
PARB_STAAU	ARSENICAL PUMP MEMBRANE PROTEIN	STAPHYLOCOCCUS AUREUS	27-71	295-322							
PARB_STAXY	ARSENICAL PUMP MEMBRANE PROTEIN	STAPHYLOCOCCUS XYLOSUS	27-71	295-322							
PARR_STAAU	ARSENICAL RESIST OPERON REPRESSOR PROTEIN	STAPHYLOCOCCUS AUREUS	56-93								
PARTA_ECOLI	ARTA PROTEIN	ESCHERICHIA COLI	1-30								
PARTI_ECOLI	TRANSPORT SYSTEM PROTEIN ARTI	ESCHERICHIA COLI	105-135	213-240							
PARTP_ECOLI	TRANSPORT SYSTEM PROTEIN ARTP	ESCHERICHIA COLI	176-208								
PASAI_ENTFA	AGGREGATION SUBSTANCE PRECURSOR	ENTEROCOCCUS FAECALIS	195-234	478-561	1199-1226	859-896					
PASNA_ECOLI	L-ASPARTATE--AMMONIA LIGASE	ESCHERICHIA COLI	127-159								
PASNB_ECOLI	ASPARAGINE SYNTHETASE B	ESCHERICHIA COLI	341-373	---							
PASNC_ECOLI	REGULATORY PROTEIN ASNC	ESCHERICHIA COLI	116-141								
PASPA_BACSU	ASPARTATE AMMONIA-LYASE	BACILLUS SUBTILIS	7-34								
PASPA_ECOLI	ASPARTATE AMMONIA-LYASE	ESCHERICHIA COLI	204-236								
PASPA_SERMA	ASPARTATE AMMONIA-LYASE	SERRATIA MARCESCENS	204-231								
PASPO_BACLI	L-ASPARAGINASE	BACILLUS LICHENIFORMIS	252-288	---	---	---					
PASPO_ERWCH	L-ASPARAGINASE PRECURSOR	ERWINIA CHRYSANTHEMI	186-218								
PASPQ_ACIGL	GLUTAMINASE-ASPARAGINASE	ACINETOBACTER GLUTAMINASIFICANS	46-80								
PASSY_ECOLI	ARGININOSUCCINATE SYNTHASE	ESCHERICHIA COLI	354-381								
PASSY_METBA	ARGININOSUCCINATE SYNTHASE	METHANOSARCINA BARKERI	287-314								
PATBP_STAAU	POTENTIAL ATP-BINDING PROTEIN	STAPHYLOCOCCUS AUREUS	41-68	201-245							
PATKA_ENTFA	POTASSIUM-TRANSPORTING ATPASE A	ENTEROCOCCUS FAECALIS	41-80	347-374							
PATKB_ENTFA	POTASSIUM-TRANSPORTING ATPASE B	ENTEROCOCCUS FAECALIS	280-310	450-477							
PATKB_SALTY	POTASSIUM-TRANSPORT ATPASE B CHAIN	SALMONELLA TYPHIMURIUM	303-330								
PATPA_SYNPX	ATP SYNTHASE A CHAIN	SYNECHOCOCCUS SP	133-160								
PATPA_VIBAL	ATP SYNTHASE A CHAIN	VIBRIO ALGINOLYTICUS	111-138								
PATPA_ANASP	ATP SYNTHASE ALPHA CHAIN	ANABAENA SP	9-36	96-130							
PATPA_BACME	ATP SYNTHASE ALPHA CHAIN	BACILLUS MEGATERIUM	4-36	451-480							
PATPA_ECOLI	ATP SYNTHASE ALPHA CHAIN	ESCHERICHIA COLI	486-513								
PATPA_ENTFA	ATP SYNTHASE ALPHA CHAIN	ENTEROCOCCUS FAECALIS	4-36	484-518							
PATPA_MYCGA	ATP SYNTHASE ALPHA CHAIN	MYCOPLASMA GALLISEPTICUM	262-409								
PATPA_PROMO	ATP SYNTHASE ALPHA CHAIN	PROPIONIGENIUM MODESTUM	6-36								
PATPA_RHORU	ATP SYNTHASE ALPHA CHAIN	RHODOSPIRILLUM RUBRUM	183-300	439-486							
PATPA_SULAC	ATPASE ALPHA CHAIN	SULFOLOBUS ACIDOCALDARIUS	318-345	361-389							
PATPA_SYNP1	ATP SYNTHASE ALPHA CHAIN	SYNECHOCOCCUS SP	7-44								
PATPA_SYNPX	ATP SYNTHASE ALPHA CHAIN	SYNECHOCOCCUS SP	8-45	362-389							
PATPA_SYNY3	ATP SYNTHASE ALPHA CHAIN	SYNECHOCYSTIS SP	8-37	454-500							
PATPA_THEFY	ATP SYNTHASE ALPHA CHAIN	THERMOPHILIC BACTERIUM PS-3	9-36								
PATPA_VIBAL	ATP SYNTHASE ALPHA CHAIN	VIBRIO ALGINOLYTICUS	464-513								
PATPB_ANASP	ATP SYNTHASE BETA CHAIN	ANABAENA SP	286-307	370-397							
PATPB_BACFI	ATP SYNTHASE BETA CHAIN	BACILLUS FIRMUS	163-190	358-385							
PATPB_MYCGA	ATP SYNTHASE BETA CHAIN	MYCOPLASMA GALLISEPTICUM	373-401								
PATPB_RHORU	ATP SYNTHASE BETA CHAIN	RHODOSPIRILLUM RUBRUM	359-386								
PATPB_SULAC	ATPASE BETA CHAIN	SULFOLOBUS ACIDOCALDARIUS	164-191								
PATPB_SYNP1	ATP SYNTHASE BETA CHAIN	SYNECHOCOCCUS SP	381-408								
PATPB_SYNPX	ATP SYNTHASE BETA CHAIN	SYNECHOCOCCUS SP	291-318	381-408							
PATPB_SYNY3	ATP SYNTHASE BETA CHAIN	SYNECHOCYSTIS SP	381-408								
PATPD_ANASP	ATP SYNTHASE DELTA CHAIN	ANABAENA SP	109-139	145-170							
PATPD_BACFI	ATP SYNTHASE DELTA CHAIN	BACILLUS FIRMUS	63-90	133-160							
PATPD_BACME	ATP SYNTHASE DELTA CHAIN	BACILLUS MEGATERIUM	112-139								
PATPD_ENTFA	ATP SYNTHASE DELTA CHAIN	ENTEROCOCCUS FAECALIS	14-41								
PATPD_PROMO	ATP SYNTHASE DELTA CHAIN	PROPIONIGENIUM MODESTUM	79-116	118-149							
PATPD_RHORL	ATP SYNTHASE DELTA CHAIN	RHODOPSEUDOMONAS BLASTICA	123-153								
PATPD_RHORU	ATP SYNTHASE DELTA CHAIN	RHODOSPIRILLUM RUBRUM	119-146								

PCGENE	Prokaryotic Sequences									
IDENTIFIER	ORGANISM	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PATPD_SYNP1	SYNECHOCOCCUS SP	100-127								
PATPD_SYNY3	SYNECHOCYSTIS SP	113-147								
PATPD_VIBAL	VIBRIO ALGINOLYTICUS	110-137								
PATPE_BACFI	BACILLUS FIRMUS	33-80								
PATPE_MYCGA	MYCOPLASMA GALLISEPTICUM	99-126								
PATPE_PROMO	PROPIONIGENIUM MODESTUM	100-127								
PATPE_SYNP1	SYNECHOCOCCUS SP	72-106								
PATPF_ANASP	ANABAENA SP	17-64	131-178	137-164						
PATPF_BACFI	BACILLUS FIRMUS	110-151								
PATPF_BACME	BACILLUS MEGATERIUM	35-85	122-170							
PATPF_MYCGA	MYCOPLASMA GALLISEPTICUM	82-135	170-197							
PATPF_SYNP1	SYNECHOCOCCUS SP	15-69	111-159							
PATPF_SYNP6	SYNECHOCOCCUS SP	12-59	128-155							
PATPF_THEP3	THERMOPHILIC BACTERIUM PS-3	50-77								
PATPG_ANASP	ANABAENA SP	276-310								
PATPG_ECOLI	ESCHERICHIA COLI	233-283								
PATPG_MYCGA	MYCOPLASMA GALLISEPTICUM	28-62	92-140							
PATPG_RHORU	RHODOSPIRILLUM RUBRUM	270-297								
PATPG_SYNP1	SYNECHOCOCCUS SP	280-307								
PATPG_SYNY3	SYNECHOCYSTIS SP	96-126	280-307							
PATPI_MYCGA	MYCOPLASMA GALLISEPTICUM	133-167								
PATPX_ANASP	ANABAENA SP	128-156								
PATPX_BACFI	BACILLUS FIRMUS	162-189	336-383							
PATPX_RHORU	RHODOSPIRILLUM RUBRUM	40-74								
PATPX_SYNP1	SYNECHOCOCCUS SP	57-110	128-155							
PATPX_SYNP6	SYNECHOCOCCUS SP	70-100								
PATPX_SYNY3	SYNECHOCYSTIS SP	108-135								
PATPZ_BACME	BACILLUS MEGATERIUM	14-42								
PATPZ_SYNP1	SYNECHOCOCCUS SP	90-131								
PAVIR_PSEAE	PSEUDOMONAS SYRINGAE	184-211	233-260							
PBA71_EUBSP	EUBACTERIUM SP	26-53								
PBA73_EUBSP	7-ALPHA-HYDROXYSTEROID DEHYDROGENASE	26-53								
PBACH_HALSH	EUBACTERIUM HALOBIUM	145-178								
PBACH_HALSG	HALORHODOPSIN PRECURSOR	180-214								
PBAES_ECOLI	HALOBACTERIUM SP	153-186								
PBAG_STRAO	ESCHERICHIA COLI	92-119	138-204	267-306	343-383	407-524	562-589	1014-1041		
PBAHC_VITSP	IGA FC RECEPTOR PRECURSOR	119-146								
PBAIC_BURSP	STREPTOCOCCUS AGALACTIAE	423-450								
PBALA_ECOLI	VITREOSCILLA SP	334-361	423-455							
PBASS_ECOLI	BILE ACID-INDUCIBLE OPERON PROTEIN C	122-156								
PBAT_HALHA	EUBACTERIUM BAEA	401-442								
PBAX_ECOLI	ESCHERICHIA COLI	21-64								
PBCCP_ECOLI	ESCHERICHIA COLI	6-35								
PBCHI_RHOCA	HALOBACTERIUM SP	249-276								
PBCHN_RHOCA	BIOTIN CARBOXYL CARRIER PROTEIN	1005-1032								
PBCN3_CLOPE	METHYLTRANSFERASE	72-99	585-646							
PBCPA_PROAE	PROTOCHLOROPHYLLIDE REDUCTASE 46 KD CHAIN	63-93								
PBCSC_ACEXY	RHODOBACTER CAPSULATUS	131-158	1015-1082							
PBCSD_ACEXY	BACTERIOCHLOROPHYLL A PROTEIN	10-37								
PBENA_ACICA	CELLULOSE SYNTHASE OPERON C PROTEIN	190-217								
PBETT_ECOLI	CELLULOSE SYNTHASE OPERON D PROTEIN	241-270								
PBEXA_HAEIN	BENZOATE 1,2-DIOXYGENASE ALPHA SUBUNIT	23-50								
PBEXC_HAEIN	HIGH AFFINITY CHOLINE TRANSPORT PROTEIN	137-184	226-253							
PBEXD_HAEIN	BEXA PROTEIN	203-239								
PBFR_NITWI	BEXC PROTEIN	8-35								
PBGAL_ECOLI	BEXD PROTEIN	955-985								
PBGAL_BACST	BACTERIOFERRITIN	599-633								
	NITROBACTER WINOGRADSKYI									
	EVOLVED BETA-GALACTOSIDASE ALPHA-SUBUNIT									
	BETA-GALACTOSIDASE									
	ESCHERICHIA COLI									
	BACILLUS STEAROTHERMOPHILUS									

PCGENE	10/5/1996	Prelaunch Sequences	AREA 1	AREA 1	AREA 1	AREA 4	AREA 3	AREA 3	AREA 1	AREA 1
FILENAME	PROTEIN	ORGANISM								
PBGAL_CLOAB	BETA-GALACTOSIDASE	CLOSTRIDIUM ACETOBUTYLICUM	824-851							
PBGAL_CLOTU	BETA-GALACTOSIDASE	CLOSTRIDIUM THERMOSULFUROGENES	161-191							
PBGAL_KLEPN	BETA-GALACTOSIDASE	KLEBSIELLA PNEUMONIAE	245-272							
PBGAL_LACDE	BETA-GALACTOSIDASE	LACTOBACILLUS DELBRUECKII	305-333							
PBGAL_STRTR	BETA-GALACTOSIDASE	STREPTOCOCCUS THERMOPHILUS	188-215							
PBGAL_SULSO	BETA-GALACTOSIDASE	SULFOLOBUS SOLFATARICUS	59-86	179-206						
PBGAM_LEULA	BETA-GALACTOSIDASE SMALL SUBUNIT	LEUCONOSTOC LACTIS	129-156							
PBGAM_SULSO	BETA-GALACTOSIDASE	SULFOLOBUS SOLFATARICUS	106-140							
PBGLA_CLOTH	BETA-GLUCOSIDASE A	CLOSTRIDIUM THERMOCELLUM	133-180	418-445						
PBGLB_CLOTH	THERMOSTABLE BETA-GLUCOSIDASE B	CLOSTRIDIUM THERMOCELLUM	259-286	375-409	554-581	611-665				
PBGLB_ECOLI	BETA-GLUCURONIDASE	ESCHERICHIA COLI	464-494	536-563						
PBGLX_AGRSP	BETA-GLUCOSIDASE	AGROBACTERIUM SP	421-448							
PBGLJ_BUTFI	BETA-GLUCOSIDASE A	BUTYRIVIBRIO FIBRISOLVENS	85-112	435-462	692-719	738-765				
PBNO_STAAU	POTENTIAL DNA-INVERTASE BINJ	STAPHYLOCOCCUS AUREUS	60-87							
PBNR_STAAU	TRANSPOSON TN552 RESOLVASE	STAPHYLOCOCCUS AUREUS	163-197							
PBNR_STAAU	DNA-INVERTASE BINR	STAPHYLOCOCCUS AUREUS	163-190							
PBIOA_BACSH	AMINOTRANSFERASE	BACILLUS SPHAERICUS	33-60							
PBIOB_BACSH	BIOTIN SYNTHETASE	BACILLUS SPHAERICUS	145-172							
PBIOB_ECOLI	BIOTIN SYNTHETASE	ESCHERICHIA COLI	130-157							
PBIOD_BACSH	DETHIOBIOTIN SYNTHASE	BACILLUS SPHAERICUS	144-171							
PBLA1_BACCE	BETA-LACTAMASE PRECURSOR, TYPE I	BACILLUS CEREUS	91-118	375-305						
PBLA1_HAEIN	BETA-LACTAMASE ROB-1 PRECURSOR	HAEMOPHILUS INFLUENZAE	152-179	204-231						
PBLA2_BACCE	BETA-LACTAMASE PRECURSOR, TYPE II	BACILLUS CEREUS	18-67	201-228						
PBLA2_BACSP	BETA-LACTAMASE PRECURSOR, TYPE II	BACILLUS SP	18-67							
PBLA3_BACCE	BETA-LACTAMASE PRECURSOR, TYPE III	BACILLUS CEREUS	35-83	93-129						
PBLA4_PSEAE	BETA-LACTAMASE PSE-4 PRECURSOR	PSEUDOMONAS AERUGINOSA	18-90							
PBLAB_BACCE	BETA-LACTAMASE PRECURSOR, TYPE II	BACILLUS CEREUS	20-66	200-227						
PBLAB_BACFR	BETA-LACTAMASE PRECURSOR, TYPE II	BACTEROIDES FRAGILIS	22-49							
PBLAC_BACCE	BETA-LACTAMASE PRECURSOR, TYPE I	BACILLUS CEREUS	93-120	276-303						
PBLAC_BACLI	BETA-LACTAMASE PRECURSOR	BACILLUS LICHENIFORMIS	47-74	166-113						
PBLAC_PROMI	BETA-LACTAMASE PRECURSOR	PROTEUS MIRABILIS	191-221							
PBLAC_PROVU	BETA-LACTAMASE	PROTEUS VULGARIS	4-31	240-267						
PBLAC_STRAL	BETA-LACTAMASE PRECURSOR	STREPTOMYCES ALBUS G	43-70							
PBLAD_KLEPN	BETA-LACTAMASE PRECURSOR	KLEBSIELLA PNEUMONIAE	121-148							
PBLAI_STAAU	PENICILLINASE REPRESSOR	STAPHYLOCOCCUS AUREUS	19-74	99-126						
PBLAO_ECOLI	BETA-LACTAMASE PRECURSOR	ESCHERICHIA COLI	118-166	235-262						
PBLAP_ECOLI	BETA-LACTAMASE PSE-2 PRECURSOR	ESCHERICHIA COLI	135-196							
PBLAR_BACLI	REGULATORY PROTEIN BLAR1	BACILLUS LICHENIFORMIS	129-156	515-532						
PBLAR_STAAU	REGULATORY PROTEIN BLAR1	STAPHYLOCOCCUS AUREUS	87-114	122-161	234-261	281-312	503-539			
PBMP_TREPA	BASIC MEMBRANE PROTEIN PRECURSOR	TREPONEMA PALLIDUM	312-346							
PBMR_BACSU	MULTIDRUG RESISTANCE PROTEIN	BACILLUS SUBTILIS	277-304							
PBNZA_PSEPU	BENZENE 1,2-DIOXYGENASE ALPHA SUBUNIT	PSEUDOMONAS PUTIDA	36-63							
PBNZB_PSEPU	BENZENE 1,2-DIOXYGENASE BETA SUBUNIT	PSEUDOMONAS PUTIDA	119-153							
PBNZD_PSEPU	P4 SUBUNIT	PSEUDOMONAS PUTIDA	179-213							
PBP3S_DESAM	BP53 PROTEIN	DESULFUROLOBUS AMBIVALENS	157-237	243-290	311-335	391-425	543-573			
PBPAB_PSEAE	CARRIER PROTEIN	PSEUDOMONAS AERUGINOSA	260-287	313-340						
PBRAB_PSEAE	TRANSPORT PROTEIN BRAE	PSEUDOMONAS AERUGINOSA	254-281							
PBRAE_PSEAE	BRAG PROTEIN	PSEUDOMONAS AERUGINOSA	7-34							
PBTUD_ECOLI	VITAMIN B12 RECEPTOR PRECURSOR	ESCHERICHIA COLI	439-466							
PBTUE_ECOLI	VITAMIN B12 TRANSPORT PERIPLASMIC PROTEIN	ESCHERICHIA COLI	6-33							
PBVGA_BORPE	TRANSCRIPTION REGULATOR BVGA	BORDETELLA PERTUSSIS	174-205							
		BORDETELLA BRONCHISEPTICA								
PBVGB_BORPE	PERIPLASMIC PROTEIN BVGB PRECURSOR	BORDETELLA PERTUSSIS	116-143							
PBVGC_BORPE	SENSOR PROTEIN BVGC	BORDETELLA PERTUSSIS	59-86	202-229						
PBVGS_BORBR	VIRULENCE BVGS PROTEIN PRECURSOR	BORDETELLA BRONCHISEPTICA	113-143	341-368	501-531					
PBXA_CLOBO	BOTULINUM NEUROTOXIN TYPE A PRECURSOR	CLOSTRIDIUM BOTULINUM	513-540	686-729	733-762	815-842	851-893	964-995	1159-1207	
PBXB_CLOBO	BOTULINUM NEUROTOXIN TYPE B PRECURSOR	CLOSTRIDIUM BOTULINUM	666-693	726-762	802-832	853-890	1004-1031	1058-1089		

PCGENE	10Tr17list	Prokaryotic Sequence									
FILENAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PBXC1_CLOBO	BOTULINUM NEUROTOXIN TYPE C1 PRECURSOR	CLOSTRIDIUM BOTULINUM	86-113	314-341	736-777	798-825	850-892				
PBXD_CLOBO	BOTULINUM NEUROTOXIN TYPE D PRECURSOR	CLOSTRIDIUM BOTULINUM	471-500	526-576	727-770	804-831	847-892	906-963	1060-1087		
PBXB_CLOBO	BOTULINUM NEUROTOXIN TYPE B PRECURSOR	CLOSTRIDIUM BOTULINUM	254-291	350-381	704-753	773-811	890-917	992-1019	1115-1149		
PBXE_CLOBU	BOTULINUM NEUROTOXIN TYPE E PRECURSOR	CLOSTRIDIUM BUTYRICUM	254-291	350-381	704-753	774-808	890-917	992-1019	1115-1149		
PBXF_CLOBO	BOTULINUM NEUROTOXIN TYPE F PRECURSOR	CLOSTRIDIUM BOTULINUM	669-710	733-772	892-919	1013-1040	1093-1122	1183-1210			
PC350_MICAE	CYTOCHROME C350	MICROCYSTIS AERUGINOSA	3-30								
PCADA_BACFI	PROBABLE CADMIUM-TRANSPORTING ATPASE	BACILLUS FIRMUS	30-57	100-131	165-192	276-306	533-567				
PCADA_STAAU	PROBABLE CADMIUM-TRANSPORTING ATPASE	STAPHYLOCOCCUS AUREUS	288-309	536-570							
PCADC_ECOLI	TRANSCRIPTIONAL ACTIVATOR CADC	ESCHERICHIA COLI	34-85	413-443							
PCAFA_YERPE	F1 CAPSULE ANCHORING PROTEIN PRECURSOR	YERSINIA PESTIS	203-240	416-457	526-535	619-646					
PCAPA_BACAN	CAPA PROTEIN	BACILLUS ANTHRACIS	108-138								
PCAPB_BACAN	CAPB PROTEIN	BACILLUS ANTHRACIS	36-70								
PCAPP_ANAN	PHOSPHOENOLPYRUVATE CARBOXYLASE	ANACYSTIS NIDULANS	248-293								
PCAPP_ANASP	PHOSPHOENOLPYRUVATE CARBOXYLASE	ANABAENA SP	98-135	157-184	687-728						
PCAPP_CORGL	PHOSPHOENOLPYRUVATE CARBOXYLASE	CORYNEBACTERIUM GLUTAMICUM	13-43								
PCAPP_ECOLI	PHOSPHOENOLPYRUVATE CARBOXYLASE	ESCHERICHIA COLI	35-62								
PCAPA_BACSU	CAPSULE BIOSYNTHESIS PROTEIN CAPA	BACILLUS SUBTILIS	274-319								
PCAPB_BACSU	CAPSULE BIOSYNTHESIS PROTEIN CAPB	BACILLUS SUBTILIS	790-831								
PCAPD_BACSU	CAPSULE BIOSYNTHESIS PROTEIN CAPD	BACILLUS SUBTILIS	454-481								
PCAT2_STAAU	CATALASE HPII	STAPHYLOCOCCUS AUREUS	7-34	87-114							
PCAT3_STAAU	CATALASE HPII	STAPHYLOCOCCUS AUREUS	7-34	87-114							
PCATA_ACICA	CATECHOL 1,2-DIOXYGENASE	ACINETOBACTER CALCOACETICUS	31-65								
PCATA_BACST	PEROXIDASE/CATALASE	BACILLUS STEAROTHERMOPHILUS	440-470								
PCATA_ECOLI	CATALASE HPI	ESCHERICHIA COLI	379-406								
PCATA_MICLU	CATALASE	MICROCOCCUS LUTEUS	493-480								
PCATA_SALTY	CATALASE HPI	SALMONELLA TYPHIMURIUM	315-342	380-407							
PCATE_ECOLI	CATALASE HPII	ESCHERICHIA COLI	735-762								
PCAT_CAMCO	CHLORAMPHENICOL ACETYLTRANSFERASE	CAMPYLOBACTER COLI	84-111								
PCAT_CLOBU	CHLORAMPHENICOL ACETYLTRANSFERASE	CLOSTRIDIUM BUTYRICUM	88-115								
PCAT_ECOLI	CHLORAMPHENICOL ACETYLTRANSFERASE	ESCHERICHIA COLI	92-119								
PCAT_PROMI	CHLORAMPHENICOL ACETYLTRANSFERASE	PROTEUS MIRABILIS	92-119								
PCAT_STAAN	CHLORAMPHENICOL ACETYLTRANSFERASE	STAPHYLOCOCCUS INTERMEDIUS	7-34	87-114							
PCAT_STRAG	CHLORAMPHENICOL ACETYLTRANSFERASE	STREPTOCOCCUS AGALACTIAE	7-34	87-114							
PCME_COXBU	CME PROTEIN	COXIELLA BURNETII	209-236								
PCUT_THEVU	CARBOXYPEPTIDASE T PRECURSOR	THERMOACTINOMYCES VULGARIS	48-75								
PCCA_ECOLI	TUNA NUCLEOTIDYLTRANSFERASE	ESCHERICHIA COLI	376-403								
PCOAK_SYNP7	COI CONC MECH PROTEIN COAK	SYNECHOCOCCUS SP	29-56								
PCOAJ_SYNP7	COI CONC MECH PROTEIN COAJ	SYNECHOCOCCUS SP	217-256	331-372	445-486						
PCOAJ_THEET	CYCLOMALTODEXTRINASE	THERMOANAEROBACTER ETHANOLICUS	303-333								
PCOD1_BACMA	CYCLOMALTODEXT GLUCANOTRANS PRECURSOR	BACILLUS MACERANS	439-466	616-643							
PCOD2_BACMA	CYCLOMALTODEXT GLUCANOTRANS PRECURSOR	BACILLUS MACERANS	210-251	416-466	615-643						
PCOD7_BACCI	CYCLOMALTODEXT GLUCANOTRANS PRECURSOR	BACILLUS CIRCULANS	217-244	442-472	594-651						
PCOD7_BACLI	CYCLOMALTODEXT GLUCANOTRANS PRECURSOR	BACILLUS LICHENIFORMIS	217-244	442-472	594-647						
PCOD7_BACON	CYCLOMALTODEXT GLUCANOTRANS PRECURSOR	BACILLUS OHBENSIS	410-471								
PCOD7_BACSP	CYCLOMALTODEXT GLUCANOTRANS PRECURSOR	BACILLUS SP	210-237	435-462	615-643						
PCOD7_BACST	CYCLOMALTODEXT GLUCANOTRANS PRECURSOR	BACILLUS SP	409-471								
PCOD7_BACSU	CYCLOMALTODEXT GLUCANOTRANS PRECURSOR	BACILLUS SP	210-237	435-462	614-641						
PCOD7_BACSP	CYCLOMALTODEXT GLUCANOTRANS PRECURSOR	BACILLUS SP	210-237	435-465	615-642						
PCOD7_BACSS	CYCLOMALTODEXT GLUCANOTRANS PRECURSOR	BACILLUS SP	217-244	442-472	594-651						
PCOD7_BACSY	CYCLOMALTODEXT GLUCANOTRANS PRECURSOR	BACILLUS STEAROTHERMOPHILUS	386-446								
PCOD7_KLEPN	CYCLOMALTODEXT GLUCANOTRANS PRECURSOR	KLEBSIELLA PNEUMONIAE	212-239								
PCEA1_ECOLI	COLICIN E1 PROTEIN	ESCHERICHIA COLI	44-71	285-326							
PCEA1_SHISO	COLICIN E1* PROTEIN	SHIGELLA SONNEI	44-71	284-325	413-440						
PCEA3_ECOLI	COLICIN E3	ESCHERICHIA COLI	334-368								
PCEA3_ECOLI	COLICIN E3	ESCHERICHIA COLI	334-368								
PCEA8_ECOLI	COLICIN E8	ESCHERICHIA COLI	334-368								
PCEA9_ECOLI	COLICIN 9	ESCHERICHIA COLI	283-341								

PCGENE	IDENTIFIER	Prokaryote Sequences								
FILENAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PCEAD_ECOLI	COLICIN D	ESCHERICHIA COLI	178-231							
PCEAH_ECOLI	COLICIN H	ESCHERICHIA COLI	178-146	173-200						
PCEAN_ECOLI	COLICIN N	ESCHERICHIA COLI	228-258							
PCEA_CITFR	COLICIN A	CITROBACTER FREUNDII	178-197							
PCEI5_STRCL	ISOPENICILLIN N EPIMERASE	STREPTOMYCES CLAVULIGERUS	68-93	235-282	378-412	415-452				
PCEIA_ECOLI	COLICIN IA PROTEIN	ESCHERICHIA COLI	68-93	235-282	378-412	415-452				
PCEIB_ECOLI	COLICIN IB PROTEIN	ESCHERICHIA COLI	59-89							
PCELA_ACEXY	UTP URIDYLYLTRANSFERASE	ACETOBACTER XYLINUM	76-103							
PCELA_ECOLI	PROTEIN CELA	ESCHERICHIA COLI	37-58							
PCFAA_ECOLI	CFA/I FIMBRIAL SUBUNIT A PRECURSOR	ESCHERICHIA COLI	138-187	388-436	561-595					
PCFAC_ECOLI	CFA/I FIMBRIAL SUBUNIT C PRECURSOR	ESCHERICHIA COLI	133-160							
PCFAD_ECOLI	CFA/I FIMBRIAL SUBUNIT D	ESCHERICHIA COLI	180-207	244-271						
PCFAE_ECOLI	CFA/I FIMBRIAL SUBUNIT E	ESCHERICHIA COLI	57-85							
PCH10_ACYPS	10 KD CHAPERONIN	ACYRTHOSIPHON PISUM SYMBIOTIC BACTERIA	66-93							
PCH10_BACSU	10 KD CHAPERONIN	BACILLUS SUBTILIS	64-91							
PCH10_CHLTR	10 KD CHAPERONIN	CHLAMYDIA TRACHOMATIS	57-84							
PCH10_ECOLI	10 KD CHAPERONIN	ESCHERICHIA COLI	64-93							
PCH10_HAEDU	10 KD CHAPERONIN	HAEMOPHILUS DUCREYI	57-84							
PCH10_LEGMI	10 KD CHAPERONIN	LEGIONELLA MICDADEI	65-92							
PCH10_RICTS	10 KD CHAPERONIN	RICKETTSIA TSUTSUGAMUSHI	66-93							
PCH10_THEFJ	10 KD CHAPERONIN	THERMOPHILIC BACTERIUM PS-3	141-182							
PCH60_ACYPS	60 KD CHAPERONIN	ACYRTHOSIPHON PISUM SYMBIOTIC BACTERIA	117-163	330-370	425-466					
PCH60_AGRTU	60 KD CHAPERONIN	AGROBACTERIUM TUMEFACIENS	299-333							
PCH60_AMOP3	60 KD CHAPERONIN	AMOEBA PROTEUS SYMBIOTIC BACTERIUM	298-333	337-364						
PCH60_BACSU	60 KD CHAPERONIN	BACILLUS SUBTILIS	125-163	299-368						
PCH60_BORBU	60 KD CHAPERONIN	BORRELIA BURGDORFERI	117-144	330-366						
PCH60_BRUAB	60 KD CHAPERONIN	BRUCELLA ABORTUS	4-31							
PCH60_CHLPN	60 KD CHAPERONIN	CHLAMYDIA PNEUMONIAE	14-31							
PCH60_CHLTR	60 KD CHAPERONIN	CHLAMYDIA TRACHOMATIS	300-327							
PCH60_CHRVI	60 KD CHAPERONIN	CHROMATIUM VINOSUM	338-332	337-364	455-482					
PCH60_CLOAB	60 KD CHAPERONIN	CLOSTRIDIUM ACETOBUTYLICUM	337-368	417-444						
PCH60_CLOPE	60 KD CHAPERONIN	CLOSTRIDIUM PERFRINGENS	300-337	348-382						
PCH60_COXBU	60 KD CHAPERONIN	COXIELLA BURNETII	339-366	417-444						
PCH60_HAEDU	60 KD CHAPERONIN	HAEMOPHILUS DUCREYI	299-333							
PCH60_LEGMI	60 KD CHAPERONIN	LEGIONELLA MICDADEI	298-332	455-479						
PCH60_LEGPN	60 KD CHAPERONIN	LEGIONELLA PNEUMOPHILA	125-152	336-363	337-364					
PCH60_MYCLE	60 KD CHAPERONIN	MYCOBACTERIUM LEPRAE	125-152	337-364						
PCH60_MYCTU	60 KD CHAPERONIN	MYCOBACTERIUM TUBERCULOSIS & BOVIS	125-152							
PCH60_PSEAE	60 KD CHAPERONIN	PSEUDOMONAS AERUGINOSA	339-366							
PCH60_RHIEV	60 KD CHAPERONIN	RHIZOBIUM LEGUMINOSARUM	117-163	322-370	425-466					
PCH60_RICTS	60 KD CHAPERONIN	RICKETTSIA TSUTSUGAMUSHI	101-130	293-336	360-394					
PCH60_SYNP7	60 KD CHAPERONIN	SYNECHOCOCCUS SP	308-335	337-380						
PCH60_SYNY3	60 KD CHAPERONIN	SYNECHOCYSTIS SP	338-365	455-489						
PCH60_THEFJ	60 KD CHAPERONIN	THERMOPHILIC BACTERIUM PS-3	333-364							
PCH60_STRAL	60 KD CHAPERONIN 1	STREPTOMYCES ALBUS G	116-148	337-364						
PCH8_VIBHA	N,N'-DIACETYLCHITOBIASE PRECURSOR	VIBRIO HARVEYI	21-48	772-799						
PCHEA_BACSU	CHEMOTAXIS PROTEIN CHEA	BACILLUS SUBTILIS	333-400	590-617						
PCHEA_ECOLI	CHEMOTAXIS PROTEIN CHEA	ESCHERICHIA COLI	236-286							
PCHEA_SALTY	CHEMOTAXIS PROTEIN CHEA	SALMONELLA TYPHIMURIUM	163-197							
PCHER_BACSU	CHEMOTAXIS PROTEIN METHYLTRANSFERASE	BACILLUS SUBTILIS	124-151							
PCHER_ECOLI	PURINE-BINDING CHEMOTAXIS PROTEIN	ESCHERICHIA COLI	68-115							
PCHEW_SALTY	PURINE-BINDING CHEMOTAXIS PROTEIN	SALMONELLA TYPHIMURIUM	88-115							
PCHEY_ECOLI	CHEMOTAXIS PROTEIN CHEY	ESCHERICHIA COLI	22-49							
PCHEY_SALTY	CHEMOTAXIS PROTEIN CHEY	SALMONELLA TYPHIMURIUM	22-49							
PCHI1_BACCI	CHITINASE A1 PRECURSOR	BACILLUS CIRCULANS	401-518	566-593						
PCHIA_ALTNO	CHITINASE A PRECURSOR	ALTEROMONAS SP	345-372							
PCHIA_SERMA	CHITINASE A PRECURSOR	SERRATIA MARCESCENS	346-373							

PCGENE	107:173:4	Prokaryotic Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
CLIC_BACCI	CHITIN	ORGANISM	102-101	189-216							
PCHID_BACCI	CHITINASE D PRECURSOR	BACILLUS CIRCULANS									
PCHIT_SACER	CHITINASE	SACCHAROPOLYSPORA ERYTHRAEA	92-119								
PCHIT_STRPL	CHITINASE 63 PRECURSOR	STREPTOMYCES PLICATUS	250-284								
PCHMU_BACSU	CHORISMATE MUTASE	BACILLUS SUBTILIS	33-57								
PCHOD_BREST	CHOLESTEROL OXIDASE PRECURSOR	BREVIBACTERIUM STEROLICUM	263-290								
PCHTA_VIBCH	CHOLERA ENTEROTOXIN, A CHAIN PRECURSOR	VIBRIO CHOLERAE	98-106								
PCHVA_AGRTU	BETA-(1-->2)GLUCAN EXPORT PROTEIN	AGROBACTERIUM TUMEFACIENS	4-31	181-208							
PCHVB_AGRTU	RECEPTOR PROTEIN CHVE PRECURSOR	AGROBACTERIUM TUMEFACIENS	100-127								
PCIB1_CITFR	CITROLYSIN PROTEIN 1	CITROBACTER FREUNDII	413-442								
PCILA_ECOLI	COLICIN I RECEPTOR PRECURSOR	ESCHERICHIA COLI	146-173								
PCISA_BACSU	PUTATIVE DNA RECOMBINASE	BACILLUS SUBTILIS	338-405								
PCIS1_ACIAN	CITRATE SYNTHASE	ACINETOBACTER ANITRATUM	143-170								
PCIS1_BACCO	CITRATE SYNTHASE	BACILLUS COAGULANS	24-51								
PCITA_SALTY	CITRATE-PROTON SYMPORT	SALMONELLA TYPHIMURIUM	154-181								
PCITN_KLEPN	CITRATE-SODIUM SYMPORT	KLEBSIELLA PNEUMONIAE	194-221								
PCITN_SALDU	CITRATE-SODIUM SYMPORT	SALMONELLA DUBLIN	194-221								
PCITN_SALPU	CITRATE-SODIUM SYMPORT	SALMONELLA PULLORUM	194-221								
PCLCA_PSEPU	CHLOROCATECHOL 1,2-DIOXYGENASE	PSEUDOMONAS PUTIDA	13-36								
PCLD1_ECOLI	CHAIN LENGTH DETERMINANT PROTEIN	ESCHERICHIA COLI	133-167								
PCLD2_ECOLI	CHAIN LENGTH DETERMINANT PROTEIN	ESCHERICHIA COLI	178-212	250-277							
PCLD_SALTY	CHAIN LENGTH DETERMINANT PROTEIN	SALMONELLA TYPHIMURIUM	96-127	131-212							
PCLOS_CLOMI	ALPHA-CLOSTRIPAIN PRECURSOR	CLOSTRIDIUM HISTOLYTICUM	30-58	497-524							
PCLPA_ECOLI	ATP-BINDING SUBUNIT CLPA	ESCHERICHIA COLI	653-695								
PCLPA_RHORL	CLPA HOMOLOG PROTEIN	RHODOPSEUDOMONAS BLASTICA	419-446								
PCLPB_BACNO	CLPB HOMOLOG PROTEIN	BACTEROIDES NODOSUS	116-137	442-476	558-595						
PCLPB_ECOLI	CLPB PROTEIN	ESCHERICHIA COLI	444-489	503-590							
PCLPX_AZOVI	CLPX HOMOLOG PROTEIN	AZOTOBACTER VINELANDII	215-242	332-359							
PCLPX_ECOLI	ATP-BINDING SUBUNIT CLPX	ESCHERICHIA COLI	255-282								
PCN16_ECOLI	2',3'-CYCLIC-NUC-3'-PHOSPHODIESTERASE PRECURS	ESCHERICHIA COLI	50-77								
PCODA_ECOLI	CYTOSINE DEAMINASE	ESCHERICHIA COLI	103-129								
PCOM1_BACSU	A COMPETENCE PROTEIN 1	BACILLUS SUBTILIS	108-135	186-211							
PCOM2_BACSU	COMPETENCE REGULATORY PROTEIN	BACILLUS SUBTILIS	154-219								
PCOP4_STAAU	COP-4 PROTEIN	STAPHYLOCOCCUS AUREUS	7-33								
PCOPB_PSESN	COPPER RESISTANCE PROTEIN B PRECURSOR	PSEUDOMONAS SYRINGAE	140-167								
PCORA_ECOLI	MAGNESIUM/COBALT TRANSPORT PROTEIN CORA	ESCHERICHIA COLI	134-161								
PCORA_SALTY	MAGNESIUM/COBALT TRANSPORT PROTEIN CORA	SALMONELLA TYPHIMURIUM	134-161								
PCOTE_BACSU	SPORE COAT PROTEIN E	BACILLUS SUBTILIS	42-92								
PCOX1_BRAJA	CYTOCHROME C OXIDASE POLYPEPTIDE I	BRADYRHIZOBIUM JAPONICUM	380-407								
PCOX1_PARDE	CYTOCHROME C OXIDASE POLYPEPTIDE I	PARACOCCUS DENITRIFICANS	383-410								
PCOX1_RHOSH	CYTOCHROME C OXIDASE POLYPEPTIDE I	RHODOBACTER SPHAEROIDES	396-423								
PCOXC_BACFI	OXIDASE ASSEMBLY FACTOR	BACILLUS FIRMUS	36-63								
PCOXC_BACSU	OXIDASE ASSEMBLY FACTOR	BACILLUS SUBTILIS	49-76								
PCPPB_NEIGO	CRYPTIC PLASMID PROTEIN B	NEISSERIA GONORRHOEAE	72-99	165-209							
PCP3B_ECOLI	MANNOSE-1-PHOSPHATE GUANYLYLTRANSFERASE	ESCHERICHIA COLI	309-336								
PCP3B_SALTY	MANNOSE-1-PHOSPHATE GUANYLYLTRANSFERASE	SALMONELLA TYPHIMURIUM	311-338								
PCP3A_ECOLI	SENSOR PROTEIN CPXA	ESCHERICHIA COLI	254-281								
PCP3G_STRLQ	CYTOCHROME P450 105C1	STREPTOMYCES SP	137-184								
PCP3U_SACER	6-DEOXYERYTHRONOLIDE B (DEB) HYDROXYLASE	SACCHAROPOLYSPORA ERYTHRAEA	233-260								
PCP3U4_BACSU	CYTOCHROME P450 109	BACILLUS SUBTILIS	240-287								
PCP3X_ANASP	PROBABLE CYTOCHROME P450	ANABAENA SP	98-125								
PCR3T_BACTI	27 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	155-187								
PCR37_BACTM	27 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	155-187								
PCR41_BACSH	1.9 KD INSECTICIDAL TOXIN	BACILLUS SPHAERICUS	276-308								
PCR42_BACSH	1.9 KD INSECTICIDAL TOXIN	BACILLUS SPHAERICUS	276-308								
PCR43_BACSH	41.9 KD INSECTICIDAL TOXIN	BACILLUS SPHAERICUS	276-308								
PCR70_BACTO	70 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	207-234	252-279	419-443						
PCR70_BACTO	73 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	57-84	125-159	417-444						

PGENE	1601178d4	Prokaryotic Sequence	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
FILE_NAME	PROTEIN	ORGANISM	199-226	244-271	421-455					
PCR79_BACTT	70 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	93-133	191-218	532-615					
PCR71_BACTK	70 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	74-111	183-414						
PCR72_BACTI	72 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	93-133	191-218	532-593					
PCR73_BACTK	70 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	208-233	502-529						
PCR77_BACTI	77 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	103-130							
PCLEC_ECOLI	SENSOR PROTEIN CLEC	ESCHERICHIA COLI	94-121							
PCUD_ECOLI	INNER MEMBRANE PROTEIN CUED	ESCHERICHIA COLI K	26-53	127-154						
PCUP_ECOLI	CATABOLITE GENE ACTIVATOR	SHIGELLA FLEXNERI								
PCUP_SALTY	CATABOLITE GENE ACTIVATOR	SALMONELLA TYPHIMURIUM	26-53	127-154						
		KLEBSIELLA AEROGENES								
PCRTI_ERWHE	PHYTOENE DEHYDROGENASE	ERWINIA HERBICOLA	231-258							
PCRTI_RHOCA	PHYTOENE DEHYDROGENASE	RHODOBACTER CAPSULATUS	309-416							
PCRTI_RHOCA	CRTI PROTEIN	RHODOBACTER CAPSULATUS	133-160	334-361	431-458					
PCRY5_BACTA	133 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	721-755	875-902						
PCRY5_BACTB	130 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	730-771	865-892	1013-1080					
PCRY5_BACTE	133 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	736-770	890-917						
PCRY5_BACTI	130 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	218-252	701-728	775-802					
PCRY5_BACTK	130 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	733-771	865-892	1013-1080					
PCRY5_BACTK	130 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	736-770	890-917						
PCRY5_BACTA	130 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	730-771	865-892	1013-1080					
PCRY7_BACTA	134 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	745-779	899-926						
PCRY7_BACTE	134 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	217-251	356-384	701-728	775-802				
PCRY7_BACTI	130 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	733-771	865-892						
PCRY7_BACTK	130 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	736-770	890-917						
PCRYU_BACTA	133 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	217-251	700-727	774-801					
PCRYU_BACTI	130 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	738-772	866-893	1014-1081					
PCRYU_BACTK	131 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	737-771	865-892	1033-1080					
PCRYW_BACTA	136 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	116-151	765-792	819-846					
PCRYW_BACTI	135 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	736-770	890-917						
PCRYW_BACTK	133 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	743-779							
PCRYW_BACTA	136 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	608-639	662-696	892-919					
PCRYW_BACTK	135 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	92-119	227-254	605-632	783-817	937-964			
PCRYX_BACTK	139 KD CRYSTAL PROTEIN	BACILLUS THURINGIENSIS	42-69	226-253	590-117	144-378				
PCS33_ECOLI	CS3 PILI SYNTHESIS 43 KD PROTEIN	ESCHERICHIA COLI	90-117	134-181	208-242					
PCS33_ECOLI	CS3 PILI SYNTHESIS 44 KD PROTEIN	ESCHERICHIA COLI	30-47	74-108						
PCS34_ECOLI	CS3 PILI SYNTHESIS 33 KD PROTEIN	ESCHERICHIA COLI	356-383	584-611						
PCS0_HALMA	CELL SURFACE GLYCOPROTEIN PRECURSOR	HALOBACTERIUM HALOBIUM	143-170	337-371						
PCS0_HALVO	CELL SURFACE GLYCOPROTEIN PRECURSOR	HALOBACTERIUM VOLCANII	59-107							
PCS0_METFE	CELL SURFACE GLYCOPROTEIN PRECURSOR	METHANOTHERMUS FERVIDUS	59-107							
PCS0_METTE	CELL SURFACE GLYCOPROTEIN PRECURSOR	METHANOTHERMUS SOCIABILIS	23-56							
PCS08_ECOLI	CS1 FIMBRIAL SUBUNIT B PRECURSOR	ESCHERICHIA COLI	118-145							
PCTA_CLOAB	COA-TRANSFERASE SUBUNIT A	CLOSTRIDIUM ACETOBUTYLICUM	174-208							
PCTB_CLOAB	COA-TRANSFERASE SUBUNIT B	CLOSTRIDIUM ACETOBUTYLICUM	152-193							
PCTB_NEIME	INNER-MEMBRANE PROTEIN CTB	NEISSERIA MENINGITIDIS	78-115	124-151	160-194	217-251				
PCTX_PSEAE	CYTOTOXIN PRECURSOR	PSEUDOMONAS AERUGINOSA	104-138	163-219						
PCVAA_ECOLI	COLICIN V SECRETION PROTEIN CVAA	ESCHERICHIA COLI	151-178							
PCVAB_ECOLI	COLICIN V SECRETION PROTEIN CVAB	ESCHERICHIA COLI	197-224	411-438	1010-1044					
PCWPA_BACBR	MODULE CELL WALL PROTEIN PRECURSOR	BACILLUS BREVIS	178-216	560-587	947-988					
PCWPO_BACBR	OUTER CELL WALL PROTEIN PRECURSOR	BACILLUS BREVIS	48-75	632-659	963-996					
PCYAA_BORPE	ADENYLATE CYCLASE PRECURSOR	BORDETELLA PERTUSSIS	343-387	593-639						
PCYAA_YEREN	ADENYLATE CYCLASE	YERSINIA ENTERMEDIA	541-568							
PCYAB_BORPE	CYAB PROTEIN	BORDETELLA PERTUSSIS	178-212							
PCYAD_BORPE	CYAD PROTEIN	BORDETELLA PERTUSSIS	113-140							
PCYAE_BORPE	CYAE PROTEIN	BORDETELLA PERTUSSIS	38-65							
PCYB_RHOCA	CYTOCHROME B	RHODOBACTER CAPSULATUS	1-30	382-409						
PCYD_ECOLI	TRANSPORT PROTEIN CYDD	ESCHERICHIA COLI	209-243							
PCYF_NOSSP	APOCYTOCHROME F PRECURSOR	NOSTOC SP								

PCGENE	107117844	Prokaryotic Sequences								
FILE NAME	PROTEIN	ORGANISM	AREA1	AREA1	AREA2	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PCYMO_ACISP	CYCLOHEXANONE MONOOXYGENASE	ACINETOBACTER SP	439-471								
PCYNT_SYNP7	CARBONIC ANHYDRASE	SYNECHOCOCCUS SP	176-200								
PCYNX_ECOLI	CYNX PROTEIN	ESCHERICHIA COLI	53-80								
PCYOB_ECOLI	CYTOCHROME O UBIQUINOL OXIDASE SUBUNIT I	ESCHERICHIA COLI	31-58								
PCYPH_SYNP7	PEPTIDYL-PROLYL CIS-TRANS ISOMERASE	SYNECHOCOCCUS SP	107-141								
PCYSA_ECOLI	SULFATE PERMEASE A PROTEIN	ESCHERICHIA COLI	164-191								
PCYSB_ECOLI	CYS REGULON TRANSCRIPTIONAL ACTIVATOR	ESCHERICHIA COLI	3-30								
PCYSB_SALTY	CYS REGULON TRANSCRIPTIONAL ACTIVATOR	SALMONELLA TYPHIMURIUM	3-30								
PCYSE_ECOLI	SERINE ACETYLTRANSFERASE	ESCHERICHIA COLI	164-191								
PCYSE_SALTY	SERINE ACETYLTRANSFERASE	SALMONELLA TYPHIMURIUM	164-191								
PCYSG_ECOLI	SIROHEM SYNTHASE	ESCHERICHIA COLI	401-433								
PCYSG_SALTY	SIROHEM SYNTHASE	SALMONELLA TYPHIMURIUM	401-433								
PCYSP_ECOLI	SULFATE ADENYLATE TRANSFERASE SUBUNIT 1	ESCHERICHIA COLI	64-91								
PCYSW_ECOLI	SULFATE PERMEASE W PROTEIN	ESCHERICHIA COLI	201-228								
PCYSW_SYNP7	SULFATE PERMEASE W PROTEIN	SYNECHOCOCCUS SP	211-238								
PCZC_ALCEU	CATION EFFLUX SYSTEM PROTEIN CZCB	ALCALIGENES EUTROPHUS	241-268	283-320	364-391						
PCZD_ALCEU	CATION EFFLUX SYSTEM PROTEIN CZCD	ALCALIGENES EUTROPHUS	139-169								
PDAC0_BACSU	PENICILLIN-BINDING PROTEIN 5' PRECURSOR	BACILLUS SUBTILIS	86-107								
PDADA_ECOLI	D-AMINO ACID DEHYDROGENASE	ESCHERICHIA COLI	127-154								
PDADA_ALTNA	NAD+-LINKED D-ALANINE GLYCINE PERMEASE	ALTERONOMAS HALOPLANKTIS	333-373								
PDAIC_ECOLI	DAIC PROTEIN	ESCHERICHIA COLI	68-95	149-180							
PDAPA_ECOLI	DIHYDRODIPICOLINATE SYNTHASE	ESCHERICHIA COLI	27-54	157-184							
PDATI_BACSU	DNA--PROTEIN-CYSTEINE METHYLTRANSFERASE	BACILLUS SUBTILIS	113-47								
PDBHA_ECOLI	DNA-BINDING PROTEIN HU-ALPHA	ESCHERICHIA COLI	12-39								
PDBH_CLOPA	DNA-BINDING PROTEIN HU	CLOSTRIDIUM PASTEURIANUM	12-53								
PDCAD_ECOLI	DECARBOXYLASE PROENZYME	ESCHERICHIA COLI	146-171								
PDCDA_CORGL	DIAMINOPIMELATE DECARBOXYLASE	CORYNEBACTERIUM GLUTAMICUM	134-161								
PDCDA_PSEAE	DIAMINOPIMELATE DECARBOXYLASE	PSEUDOMONAS AERUGINOSA	57-84								
PDCEB_ECOLI	GLUTAMATE DECARBOXYLASE BETA	ESCHERICHIA COLI	4-31								
PDCHB_ENTAE	HISTIDINE DECARBOXYLASE	ENTEROBACTER AEROGENES	111-138								
PDCHB_KLEPL	HISTIDINE DECARBOXYLASE	KLEBSIELLA PLANTICOLA	111-138								
PDCHB_MORMO	HISTIDINE DECARBOXYLASE	MORGANELLA MORGANII	111-138								
PDCID_BACSU	DIPEPTIDE TRANSPORT PROTEIN DCIAD	BACILLUS SUBTILIS	188-222								
PDCLY_HAPAL	LYSINE DECARBOXYLASE	HAPNIA ALVEI	305-332								
PDCOA_KLEPN	OXALOACETATE DECARBOXYLASE ALPHA CHAIN	KLEBSIELLA PNEUMONIAE	261-288	342-369							
PDCOA_SALTY	OXALOACETATE DECARBOXYLASE ALPHA CHAIN	SALMONELLA TYPHIMURIUM	261-288	342-369							
PDCOB_SALTY	OXALOACETATE DECARBOXYLASE BETA CHAIN	SALMONELLA TYPHIMURIUM	299-326								
PDCTD_RHILE	TRANSPORT SENSOR PROTEIN DCTB	RHIZOBIUM LEGUMINOSARUM	377-411								
PDCTD_RHIME	TRANSPORT SENSOR PROTEIN DCTB	RHIZOBIUM MELILOTI	511-538								
PDEAD_ECOLI	ATP-DEPENDENT RNA HELICASE DEAD	ESCHERICHIA COLI	268-295	518-545							
PDEAD_KLEPN	ATP-DEPENDENT RNA HELICASE DEAD	KLEBSIELLA PNEUMONIAE	287-294	519-546							
PDEDA_ECOLI	DEDA PROTEIN	ESCHERICHIA COLI	106-133								
PDEGS_BACSU	SENSOR PROTEIN DEGS	BACILLUS SUBTILIS	51-70	75-159	292-337						
PDEHI_MORSP	HALOACETATE DEHALOGENASE H-2	MORAXELLA SP	114-141								
PDEOC_ECOLI	DEOXYRIBOSE-PHOSPHATE ALDOLASE	ESCHERICHIA COLI	134-161								
PDHAL_PSEOL	ALDEHYDE DEHYDROGENASE	PSEUDOMONAS OLEOVORANS	6-33								
PDHAS_BACSU	ASPARTATE-SEMIALDEHYDE DEHYDROGENASE	BACILLUS SUBTILIS	156-184								
PDHAS_CORGL	ASPARTATE-SEMIALDEHYDE DEHYDROGENASE	CORYNEBACTERIUM GLUTAMICUM	41-70	312-339							
PDHAS_ECOLI	ASPARTATE-SEMIALDEHYDE DEHYDROGENASE	ESCHERICHIA COLI	229-256								
PDHAS_VIBCH	ASPARTATE-SEMIALDEHYDE DEHYDROGENASE	VIBRIO CHOLERAE	306-336								
PDHA_BACSH	ALANINE DEHYDROGENASE	BACILLUS SPHAERICUS	149-176								
PDHA_BACST	ALANINE DEHYDROGENASE	BACILLUS STEAROTHERMOPHILUS	94-121								
PDHE3_CLOSY	NAD-SPECIFIC GLUTAMATE DEHYDROGENASE	CLOSTRIDIUM DIFFICILE	116-143								
PDHE3_PEPAS	D-SPECIFIC GLUTAMATE DEHYDROGENASE	PEPTOSTREPTOCOCCUS ASACCHAROLYTICUS	347-374	345-380							
PDHE3_SULSO	GLUTAMATE DEHYDROGENASE	SULFOLOBUS SOLFATARICUS	3-36								
PDHEA_CORGL	NADP-SPECIFIC GLUTAMATE DEHYDROGENASE	CORYNEBACTERIUM GLUTAMICUM	188-215	228-256							
PDHGA_ACICA	GLUCOSE DEHYDROGENASE-A	ACINETOBACTER CALCOACETICUS	116-59	190-217							

PGENE	1B7x17bs4	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILE_NAME	PROTEIN	ORGANISM									
PDHGB_BACSE	GLUCOSE 1-DEHYDROGENASE B	BACILLUS MEGATERIUM	27-57								
PDHGB_BACSE	GLUCOSE 1-DEHYDROGENASE	BACILLUS MEGATERIUM	436-463								
PDHG_ECOLI	GLUCOSE DEHYDROGENASE	ESCHERICHIA COLI	168-195								
PDHRT_STVVN	KETOACYL REDUCTASE 1	STREPTOMYCES VIOLACEORUBER	192-219								
PDHLE_BACST	LEUCINE DEHYDROGENASE	BACILLUS STEAROTHERMOPHILUS	317-344								
PDHLD_AGRT4	D-LYSOPINE DEHYDROGENASE	AGROBACTERIUM TUMEFACIENS									
PDHMI_METEX	METHANOL DEHYDROGENASE SUBUNIT I PREC	METHYLOBACTERIUM EXTORQUENS	133-187	190-224							
PDHMI_METOR	METHANOL DEHYDROGENASE SUBUNIT I PREC	METHYLOBACTERIUM ORGANOPHILUM	133-187	190-224							
PDHMI_PAUDE	METHANOL DEHYDROGENASE SUBUNIT I PREC	PARACOCCUS DENITRIFICANS	195-222								
PDHNA_BACSP	NADH DEHYDROGENASE	BACILLUS SP	284-314								
PDHNA_ECOLI	NADH DEHYDROGENASE	ESCHERICHIA COLI	180-214								
PDHOM_BACSU	HOMOSERINE DEHYDROGENASE	BACILLUS SUBTILIS	73-107	408-433							
PDHOM_CORGL	HOMOSERINE DEHYDROGENASE	CORYNEBACTERIUM GLUTAMICUM	105-132								
PDHPH_BACSH	PHENYLALANINE DEHYDROGENASE	BACILLUS SPHAERICUS	212-239								
PDHSA_ECOLI	SUCC DEHYDROGENASE FLAVOPROTEIN SUBUNIT	ESCHERICHIA COLI	482-512								
PDHSS_ANACY	SOLUBLE HYDROGENASE 41 KD SUBUNIT	ANABAENA CYLINDRICA	86-113	130-168							
PDHSS_SYNP1	SOLUBLE HYDROGENASE, SMALL SUBUNIT	SYNECHOCOCCUS SP	133-160								
PDHTM_METME	TRIMETHYLAMINE DEHYDROGENASE	METHYLOTROPHUS METHYLOPHILUS	439-466								
PDIHO_ECOLI	PROBABLE ATP-DEPENDENT HELICASE DING	ESCHERICHIA COLI	384-411								
PDIVB_BACSU	DIVISION INITIATION PROTEIN	BACILLUS SUBTILIS	54-82	114-141							
PDLDI_PSEFU	DIHYDROLIPOAMIDE DEHYDROGENASE	PSEUDOMONAS PUTIDA	91-120								
PDLDH_AZOVI	LIPOAMIDE DEHYDROGENASE COMP (E3)	AZOTOBACTER VINELANDII	18-45	224-276							
PDLDH_BACST	LIPOAMIDE DEHYDROGENASE COMP (E3)	BACILLUS STEAROTHERMOPHILUS	82-124								
PDLDH_BACSU	LIPOAMIDE DEHYDROGENASE COMP (E3)	BACILLUS SUBTILIS	82-109								
PDLDH_ECOLI	DIHYDROLIPOAMIDE DEHYDROGENASE	ESCHERICHIA COLI	108-135								
PDLDH_PSEFL	DIHYDROLIPOAMIDE DEHYDROGENASE	PSEUDOMONAS FLUORESCENS	124-151	223-275							
PDMON_PSEPU	PHENOL HYDROXYLASE P1 PROTEIN	PSEUDOMONAS PUTIDA	63-90								
PDNAI_BACSU	DNAI PROTEIN	BACILLUS SUBTILIS	497-524	548-581							
PDNAI_BACSU	DNAI PROTEIN	BACILLUS SUBTILIS	436-483								
PDNAS_BACSU	DNAS PROTEIN	BACILLUS SUBTILIS	316-380								
PDNAA_BORBU	DNAA PROTEIN	BORRELIA BURGDORFERI	182-210	248-275	341-387	436-463					
PDNAA_BORBU	DNAA PROTEIN	BORRELIA BURGDORFERI	71-100	111-138	333-380						
PDNAA_BUCAP	DNAA PROTEIN	BUCHNERA APHIDICOLA	366-400								
PDNAA_ECOLI	DNAA PROTEIN	ESCHERICHIA COLI	185-413								
PDNAA_MYCLU	DNAA PROTEIN	MICROCOCCUS LUTEUS	8-36	75-112	274-310	336-389					
PDNAA_MYCCA	DNAA PROTEIN	MYCOPLASMA CAPRICOLUM	365-399								
PDNAA_PROMI	DNAA PROTEIN	PROTEUS MIRABILIS	398-439								
PDNAA_PSEPU	DNAA PROTEIN	PSEUDOMONAS PUTIDA	45-72	76-110	145-180						
PDNAA_SPICI	DNAA PROTEIN	SPIROPLASMA CITRI	332-353								
PDNAB_CHLTR	DNAB-LIKE PROTEIN	CHLAMYDIA TRACHOMATIS	83-109								
PDNAB_ECOLI	DNAB PROTEIN	ESCHERICHIA COLI	182-209								
PDNAB_SALTY	DNAB PROTEIN	SALMONELLA TYPHIMURIUM	146-190								
PDNAC_ECOLI	DNAC PROTEIN	ESCHERICHIA COLI	497-524	548-581							
PDNAC_BACME	DNAC PROTEIN	BACILLUS MEGATERIUM	312-394								
PDNAC_BORBU	DNAC PROTEIN	BORRELIA BURGDORFERI	248-275	312-346							
PDNAC_BRUOV	DNAC PROTEIN	BRUCELLA OVIS	541-588								
PDNAC_CAUCR	DNAC PROTEIN	CAULOBACTER CRESCENTUS	499-526								
PDNAC_CLOAB	DNAC PROTEIN	CLOSTRIDIUM ACETOBUTYLICUM	496-527								
PDNAC_CLOPE	DNAC PROTEIN	CLOSTRIDIUM PERFRINGENS	523-550								
PDNAC_METMA	DNAC PROTEIN	METHANOSARCINA MAZEI	502-529								
PDNAC_MYCTU	DNAC PROTEIN	MYCOBACTERIUM TUBERCULOSIS	43-72	533-572							
PDNAC_STRCO	DNAC PROTEIN	STREPTOMYCES COELICOLOR	114-141								
PDNIR_ECOLI	REGULATORY PROTEIN DNIR	ESCHERICHIA COLI	638-712								
PDNLI_ZYMMO	DNA LIGASE	ZYMOMONAS MOBILIS	24-51								
PDNTJ_STRPE	TRANSDUCTION PROTEIN DNTJ	STREPTOMYCES PEUCETIUS	104-172								
PDOCK_SULSO	PROBABLE SIGNAL RECOGNITION PARTICLE PROTE	SULFOLOBUS SOLFATARICUS	58-85	417-444	1382-1416						
PDPJA_BACSU	DNA POLYMERASE III, ALPHA CHAIN	BACILLUS SUBTILIS	77-104								
PDPJA_ECOLI	DNA POLYMERASE III, ALPHA CHAIN	ESCHERICHIA COLI	230-257								
PDPJA_SACER	DNA POLYMERASE III, ALPHA CHAIN	SACCHAROPOLYSPORA ERYTHRAEA									

PCGENE	10/31/94	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILE NAME	PROTEIN	ORGANISM									
PDP2A_SALTY	DNA POLYMERASE III, ALPHA CHAIN	SALMONELLA TYPHIMURIUM	77-104								
PDP3B_BACSU	DNA POLYMERASE III, BETA CHAIN	BACILLUS SUBTILIS	213-239								
PDP3B_BORBU	DNA POLYMERASE III, BETA CHAIN	BORRELIA BURGDORFERI	206-233								
PDP3B_BUCAP	DNA POLYMERASE III, BETA CHAIN	BUCHNERA APHIDICOLA	31-62	308-359							
PDP3B_MICLU	DNA POLYMERASE III, BETA CHAIN	MICROCOCCUS LUTEUS	191-218								
PDP3B_MYCCA	DNA POLYMERASE III, BETA CHAIN	MYCOPLASMA CAPRICOLUM	36-70								
PDP3B_PSEPU	DNA POLYMERASE III, BETA CHAIN	PSEUDOMONAS PUTIDA	30-60								
PDP3B_SPICI	DNA POLYMERASE III, BETA CHAIN	SPIROPLASMA CITRI	78-112	139-177	273-310						
PDP3X_BACSU	DNA POLYMERASE III SUBUNITS GAMMA AND TAU	BACILLUS SUBTILIS	231-272								
PDPC1_ECOLI	DNA PRIMASE TRAC-1	ESCHERICHIA COLI	691-743								
PDPC1_ECOLI	DNA PRIMASE TRAC-1	ESCHERICHIA COLI	401-448								
PDPND_STRPN	DPND PROTEIN	STREPTOCOCCUS PNEUMONIAE	96-128								
PDPO1_BACCA	DNA POLYMERASE I	BACILLUS CALDOTENAX	208-235								
PDPO1_STRPN	DNA POLYMERASE I	STREPTOCOCCUS PNEUMONIAE	198-225	398-425	571-598	645-672					
PDPO1_THEAQ	DNA POLYMERASE	THERMUS AQUATICUS	196-223	602-629							
PDPO1_THEFL	DNA POLYMERASE	THERMUS AQUATICUS	597-628								
PDPO2_ECOLI	DNA POLYMERASE II	ESCHERICHIA COLI	569-596								
PDPOL_PYRFU	DNA POLYMERASE	PYROCOCCUS FURIOSUS	746-773								
PDPOL_SULSO	DNA POLYMERASE	SULFOLOBUS SOLFATARICUS	379-406	436-463	623-659	747-774					
PDPOL_THELI	DNA POLYMERASE	THERMOCOCCUS LITORALIS	332-370	551-589	892-926	1004-1031	1153-1194				
PDPP_LACLA	DIPEPTIDYL PEPTIDASE IV	LACTOCOCCUS LACTIS	716-753								
PDPS_ECOLI	DNA PROTECTION DURING STARVATION PROTEIN	ESCHERICHIA COLI	4-45								
PDNN_STREQ	DEOXYRIBONUCLEASE PRECURSOR	STREPTOCOCCUS EQUISIMILIS	33-60	291-318							
PDUA_STDE	DAUNORUBICIN RESISTANCE ATP-BINDING PROTEI	STREPTOMYCES PEUCETIUS	286-313								
PDYRA_STAAU	DIHYDROFOLATE REDUCTASE TYPE I	STAPHYLOCOCCUS AUREUS	62-89								
PE13B_BACCI	GLUCAN ENDO-1,3-BETA-GLUCOSIDASE A1 PREC	BACILLUS CIRCULANS	134-161	305-339	424-451						
PEAE_ECOLI	ATTACHING AND EFFACING PROTEIN	ESCHERICHIA COLI	66-100	158-185	525-552	691-725	802-836	871-905			
PEBOR_ECOLI	EBG OPERON REPRESSOR PROTEIN	ESCHERICHIA COLI	151-178								
PEBR_STAAU	ETHIDIUM BROMIDE RESISTANCE PROTEIN	STAPHYLOCOCCUS AUREUS	68-98								
PECHB_RHOCA	ENOYL-COA HYDRATASE HOMOLOG	RHODOBACTER CAPSULATUS	222-249								
PECPD_ECOLI	CHAPERONE PROTEIN ECPD PRECURSOR	ESCHERICHIA COLI	20-47								
PEDD_ZYMMO	PHOSPHOGLUCONATE DEHYDRATASE	ZYMOMONAS MOBILIS	11-39								
PEDN_STAAU	EPIDERMAL CELL DIF DNA PRECURSOR	STAPHYLOCOCCUS AUREUS	32-79	119-146							
PEF1_DESMO	ELONGATION FACTOR 2	DESULFUROCOCCUS MOBILIS	427-461								
PEF1_HALHA	ELONGATION FACTOR 2	HALOBACTERIUM HALOBIUM	186-213								
PEF1_METVA	ELONGATION FACTOR 2	METHANOCOCCUS VANNIELII	409-436								
PEF1_SULAC	ELONGATION FACTOR 2	SULFOLOBUS ACIDOCALDARIUS	36-63	145-180							
PEF1_THEAC	ELONGATION FACTOR 2	THERMOPLASMA ACIDOPHILUM	13-40	46-76	220-247						
PEFG_ANASP	ELONGATION FACTOR G	ANACYSTIS NIDULANS	333-359								
PEFG_ECOLI	ELONGATION FACTOR G	ESCHERICHIA COLI	210-261								
PEFG_MYCLE	ELONGATION FACTOR G	MYCOBACTERIUM LEPRAE	311-359	330-357							
PEFG_SALTY	ELONGATION FACTOR G	SALMONELLA TYPHIMURIUM	234-281								
PEFG_SPIPL	ELONGATION FACTOR G	SPIRULINA PLATENSIS	334-374	481-511							
PEFG_SYNY3	ELONGATION FACTOR G	SYNECHOCYSTIS SP	14-41								
PEFT1_STRLA	ELONGATION FACTOR TU1	STREPTOMYCES RANOCISSINUS	221-251								
PEFT2_STRLA	ELONGATION FACTOR TU2	STREPTOMYCES RANOCISSINUS	221-258								
PEFTS_STRLA	ELONGATION FACTOR TS	STREPTOMYCES RANOCISSINUS	228-255								
PEFTS_ECOLI	ELONGATION FACTOR TS	ESCHERICHIA COLI	101-135								
PEFTS_SPICI	ELONGATION FACTOR TS	SPIROPLASMA CITRI	27-54	136-161							
PEFTU_BACFR	ELONGATION FACTOR TU	BACTEROIDES FRAGILIS	18-45	229-256							
PEFTU_BACSU	ELONGATION FACTOR TU	BACILLUS SUBTILIS	11-45	230-257							
PEFTU_BURCE	ELONGATION FACTOR TU	BURKHOLDERIA CEPACIA	26-53								
PEFTU_CHLTR	ELONGATION FACTOR TU	CHLAMYDIA TRACHOMATIS	218-245								
PEFTU_DESUP	ELONGATION FACTOR TU	DESNOMEMA SP	230-257								
PEFTU_FLESI	ELONGATION FACTOR TU	FLEXISTIPES SINUSARABICI	221-248								
PEFTU_HALMA	ELONGATION FACTOR TU	HALOARCULA MARISMORTUI	4-31								

PCGENE	107a17dat	Prokaryotic Sequences	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1
ELEANAME	PROTEIN	ORGANISM									
PEFTU_MICLU	ELONGATION FACTOR TU	MICROCOCCUS LUTEUS	221-268								
PEFTU_MYCHO	ELONGATION FACTOR TU	MYCOPLASMA HOMINIS	222-269								
PEFTU_MYCTA	ELONGATION FACTOR TU	MYCOBACTERIUM TUBERCULOSIS	220-267								
PEFTU_MYCTU	ELONGATION FACTOR TU	MYCOBACTERIUM TUBERCULOSIS	220-267								
PEFTU_SHEPU	ELONGATION FACTOR TU	SHEWANELLA PUTREFACIENS	26-53								
PEFTU_STRAU	ELONGATION FACTOR TU	STREPTOCOCCUS AGALIS	232-279								
PELAS_PSEAE	PSEUDOLYSIN PRECURSOR	PSEUDOMONAS AERUGINOSA	141-188								
PELT1_ECOLI	T-LABILE ENTEROTOXIN A CHAIN PRECURSOR	ESCHERICHIA COLI	28-103								
PELT2_ECOLI	T-LABILE ENTEROTOXIN A CHAIN PRECURSOR	ESCHERICHIA COLI	70-146								
PELTB_CLOPE	T-LABILE ENTEROTOXIN B CHAIN PRECURSOR	CLOSTRIDIUM PERFRINGENS	228-269								
PENTD_ECOLI	ENTEROBACTIN SYNTHETASE COMPONENT D	ESCHERICHIA COLI	134-188								
PENVM_SALTY	ENVM PROTEIN	SALMONELLA TYPHIMURIUM	14-61	125-239	290-325	387-421	857-889				
PEPD_STAAU	117 KD MEMBRANE ASSOCIATED PROTEIN	STAPHYLOCOCCUS EPIDERMIDIS	51-80								
PEPIC_STAEP	EPIDERMIN BIOSYNTHESIS PROTEIN EPIC	STAPHYLOCOCCUS EPIDERMIDIS	411-447								
PEPP_STAEP	SERINE PROTEASE EPIP PRECURSOR	STAPHYLOCOCCUS EPIDERMIDIS	3-58	207-325							
PEPV_STAEP	HYPOTHETICAL 16.7 KD PROTEIN IN EPIA 5'REGION	STAPHYLOCOCCUS EPIDERMIDIS	76-101								
PEPZ_STAEP	HYPOTHETICAL PROTEIN IN EPIA 5'REGION	STAPHYLOCOCCUS EPIDERMIDIS	42-100								
PERA_ECOLI	GTP-BINDING ERA PROTEIN	ESCHERICHIA COLI	18-45								
PERB3_SACER	SENSORY TRANSDUCTION PROTEIN ERYC1	SACCHAROPOLYSPORA ERYTHRAEA	290-343								
PERE4_ECOLI	ERYTHROMYCIN ESTERASE TYPE I	ESCHERICHIA COLI	37-64	143-170							
PERY1_SACER	ERYTHRONOLIDE SYNTHASE, MODULES 5 AND 6	SACCHAROPOLYSPORA ERYTHRAEA	9-36	963-994	1117-1144						
PESTA_STRLC	ESTERASE PRECURSOR	STREPTOMYCES SCABIES	134-153								
PESTE_PSEFL	ARYLESTERASE	PSEUDOMONAS FLUORESCENS	162-189								
PETC1_STAAU	ENTEROTOXIN TYPE C1 PRECURSOR	STAPHYLOCOCCUS AUREUS	76-117	155-206							
PETC2_STAAU	ENTEROTOXIN TYPE C2 PRECURSOR	STAPHYLOCOCCUS AUREUS	76-117	155-206							
PETC3_STAAU	ENTEROTOXIN TYPE C3 PRECURSOR	STAPHYLOCOCCUS AUREUS	76-117	155-206							
PETXA_STAAU	ENTEROTOXIN TYPE A PRECURSOR	STAPHYLOCOCCUS AUREUS	26-69	165-192							
PETXB_CLOPE	EPSILON-TOXIN, TYPE B PRECURSOR	CLOSTRIDIUM PERFRINGENS	209-236								
PETXD_STAAU	ENTEROTOXIN TYPE D PRECURSOR	STAPHYLOCOCCUS AUREUS	64-101	173-207							
PETXD_STAAU	ENTEROTOXIN TYPE D PRECURSOR	STAPHYLOCOCCUS AUREUS	153-200								
PETXE_STAAU	ENTEROTOXIN TYPE E PRECURSOR	STAPHYLOCOCCUS AUREUS	26-69	88-115							
PEUTC_SALTY	ETHANOLAMINE AMMONIA-LYASE LIGHT CHAIN	SALMONELLA TYPHIMURIUM	116-150								
PEVGA_ECOLI	PUTATIVE TRANSCRIPTION REG EVGA	ESCHERICHIA COLI	62-89								
PEVGS_ECOLI	PUTATIVE SENSOR PROTEIN EVGS	ESCHERICHIA COLI	45-79	249-276	431-458	526-553	829-856				
PEXSB_ECOLI	EXODEOXYRIBONUCLEASE V	ESCHERICHIA COLI	226-253								
PEXSB_ECOLI	BIOPOLYMER TRANSPORT EXBB PROTEIN	ESCHERICHIA COLI	186-187								
PEXOA_RHIME	SUCCINOGLYCAN BIOSYNTHESIS PROTEIN EXOA	RHIZOBIUM MELILOTI	180-207								
PEXOA_STRPN	EXODEOXYRIBONUCLEASE	STREPTOCOCCUS PNEUMONIAE	218-254								
PEXOF_RHIME	EXOF PROTEIN	RHIZOBIUM MELILOTI	236-270	327-361							
PEXOH_RHIME	SUCCINOGLYCAN BIOSYNTHESIS PROTEIN EXOH	RHIZOBIUM MELILOTI	252-279								
PEXOP_RHIME	SUCCINOGLYCAN BIOSYNTHESIS PROTEIN EXOP	RHIZOBIUM MELILOTI	211-242	272-299	330-391						
PFADB_ECOLI	FATTY OXIDATION COMPLEX ALPHA SUBUNIT	ESCHERICHIA COLI	36-63	177-204							
PFADL_ECOLI	FATTY ACID TRANSPORT PROTEIN PRECURSOR	ESCHERICHIA COLI	220-247								
PFADO_ECOLI	OUTER MEMBRANE PROTEIN FADD PRECURSOR	ESCHERICHIA COLI	223-257	421-453	507-541						
PFADF_ECOLI	KID MINOR FIMBRIAL SUBUNIT PRECURSOR	ESCHERICHIA COLI	18-48								
PFAND_ECOLI	FAND PROTEIN PRECURSOR	ESCHERICHIA COLI	160-194	386-423	506-523	730-757					
PFANE_ECOLI	CHAPERONE PROTEIN FANE PRECURSOR	ESCHERICHIA COLI	22-58								
PFANG_ECOLI	FANG PROTEIN PRECURSOR	ESCHERICHIA COLI	104-131								
PFANH_ECOLI	FANH PROTEIN PRECURSOR	ESCHERICHIA COLI	103-141								
PFAOB_PSEFR	FATTY OXIDATION COMPLEX ALPHA SUBUNIT	PSEUDOMONAS FRAGI	8-42	295-322							
PFDHD_WOLSU	FDHD PROTEIN	WOLINELLA SUCCINOGENES	64-98								
PFDHF_ECOLI	FORMATE DEHYDROGENASE	ESCHERICHIA COLI	611-640								
PFDHF_PSEFR	FORMATE DEHYDROGENASE	PSEUDOMONAS SP	49-76	346-393							
PFDHO_ECOLI	FORMATE DEHYDROGENASE	ESCHERICHIA COLI	288-313	323-350	696-730						
PFECA_ECOLI	TRANSPORT PROTEIN FECA PRECURSOR	ESCHERICHIA COLI	331-361								
PFECC_ECOLI	TRANSPORT PROTEIN 1, CYTOSOLIC	ESCHERICHIA COLI	210-237								
PFECI_ECOLI	FECI PROTEIN	ESCHERICHIA COLI	131-158								

PCGENE	10:1170.4	Prokaryotic Sequences									
FILE NAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PFEMB_STAAU	POSSIBLE PROTEIN F EMB	STAPHYLOCOCCUS AUREUS	23-56								
PFENR_SYNP2	FERREDOXIN--NADP REDUCTASE	SYNECHOCOCCUS SP	4-31								
PFEPC_ECOLI	FERRIC ENTEROBACTIN TRANSPORT PROTEIN FEPC	ESCHERICHIA COLI	176-203								
PFEPE_ECOLI	FERRIC ENTEROBACTIN TRANSPORT PROTEIN FEPE	ESCHERICHIA COLI	182-234	281-308							
PFEPG_ECOLI	FERRIC ENTEROBACTIN TRANSPORT PROTEIN FEPG	ESCHERICHIA COLI	128-155								
PFERH_ANASP	FERREDOXIN, HETEROCYST	ANABAENA SP	2-29								
PFERX_ANASP	FERREDOXIN-LIKE PROTEIN IN NIF REGION	ANABAENA SP	61-94								
PFHAB_BORPE	FILAMENTOUS HEMAGGLUTININ	BORDETELLA PERTUSSIS	1128-1158	1336-1386	2063-2114	2841-2868	3051-3085	3187-3194			
PFHAC_BORPE	HAEMOLYSIN-LIKE PROTEIN FHAC PRECURSOR	BORDETELLA PERTUSSIS	340-369								
PFHLA_ECOLI	FORMATE HYDROGENLYASE TRANSACTIVATOR	ESCHERICHIA COLI	36-63	350-384	401-428						
PFHUA_ECOLI	FERRICHROME-IRON RECEPTOR PRECURSOR	ESCHERICHIA COLI	458-485								
PFHUB_ECOLI	PROTEIN HUB PRECURSOR	ESCHERICHIA COLI	227-254								
PFHUE_ECOLI	OUTER-MEMBRANE RECEPTOR	ESCHERICHIA COLI	587-614								
PFIB_SPICI	FIBRIL PROTEIN	SPIROPLASMA CITRI	161-195	326-367							
PFIC_ECOLI	CELL FILAMENTATION PROTEIN FIC	ESCHERICHIA COLI	151-178								
PFIC_SALTY	CELL FILAMENTATION PROTEIN FIC	SALMONELLA TYPHIMURIUM	151-178								
PFIMC_BORPE	OUTER MEMBRANE PROTEIN FIMC PRECURSOR	BORDETELLA PERTUSSIS	208-235	340-367	618-645						
PFIMC_ECOLI	CHAPERONE PROTEIN FIMC PRECURSOR	ESCHERICHIA COLI	31-58								
PFIMD_ECOLI	FIMD PROTEIN PRECURSOR	ESCHERICHIA COLI	222-253	438-485	534-561	563-590					
PFIME_ECOLI	TYPE 1 FIMBRIAE REGULATORY PROTEIN FIME	ESCHERICHIA COLI	165-192								
PFIMY_SALTY	FIMBRIAE Y PROTEIN	SALMONELLA TYPHIMURIUM	69-76								
PFIMZ_ECOLI	FIMBRIAE Z PROTEIN	ESCHERICHIA COLI	42-69	162-192	196-230						
PFIMZ_SALTY	FIMBRIAE Z PROTEIN	SALMONELLA TYPHIMURIUM	173-209								
PFINQ_ECOLI	FINQ PROTEIN	ESCHERICHIA COLI	145-172								
PFIRA_RICJO	FIRA PROTEIN	RICKETTSIA RICKETTSII	162-189								
PFIXC_AZOCA	FIXC PROTEIN	AZORHIZOBIUM CAULINODANS	129-156								
PFIXL_AZOCA	SENSOR PROTEIN FIXL	AZORHIZOBIUM CAULINODANS	247-274								
PFIXL_BRAJA	SENSOR PROTEIN FIXL	BRADYRHIZOBIUM JAPONICUM	37-54	253-280							
PFLA1_BORBU	FLAGELLAR FILAMENT 41 KD CORE PROTEIN	BOUDELIA BURGDORFERI	8-35	271-298							
PFLA1_HALHA	FLAGELLIN A1 PRECURSOR	HALOBACTERIUM HALOBIUM	63-92	137-164							
PFLA1_METVO	FLAGELLIN B1 PRECURSOR	METHANOCOCCUS VOLTAE	28-71	133-160							
PFLA2_METVO	FLAGELLIN B2 PRECURSOR	METHANOCOCCUS VOLTAE	28-66								
PFLA2_HALHA	FLAGELLIN B1 PRECURSOR	HALOBACTERIUM HALOBIUM	36-63								
PFLA3_METVO	FLAGELLIN B1 PRECURSOR	METHANOCOCCUS VOLTAE	35-76								
PFLA4_HALHA	FLAGELLIN B2 PRECURSOR	HALOBACTERIUM HALOBIUM	36-90	137-164							
PFLA5_HALHA	FLAGELLIN B3 PRECURSOR	HALOBACTERIUM HALOBIUM	36-63	134-161							
PFLAA_BACSU	FLAA LOCUS 32.9 KD PROTEIN	BACILLUS SUBTILIS	33-149	155-186							
PFLAA_CAMCO	FLAGELLIN A	CAMPYLOBACTER COLI	13-42	144-191	497-525						
PFLAA_CAMJE	FLAGELLIN A	CAMPYLOBACTER JEJUNI	220-266	310-337	500-538						
PFLAA_METVO	FLAGELLIN A PRECURSOR	METHANOCOCCUS VOLTAE	28-62								
PFLAA_PSEAE	FLAGELLIN	PSEUDOMONAS AERUGINOSA	3-41	31-88	97-124						
PFLAA_RHIME	FLAGELLIN	RHIZOBIUM MELILOTI	181-219	228-265	340-391						
PFLAA_SPIAU	FLAGELLAR FILAMENT PROTEIN PRECURSOR	SPIROCHAETA AURANTIA	162-189								
PFLAA_TREHY	FLAGELLAR FILAMENT PROTEIN PRECURSOR	TREPONEMA HYODYSENTERIAE	55-89	219-253							
PFLAA_TREPA	FLAGELLAR FILAMENT OUTER LAYER PROTEIN	TREPONEMA PALLIDUM	243-270								
PFLAB_CAMCO	FLAGELLIN B	CAMPYLOBACTER COLI	144-191	497-525							
PFLAB_CAMJE	FLAGELLIN B	CAMPYLOBACTER JEJUNI	220-266	310-337	500-538						
PFLAB_RHIME	FLAGELLIN	RHIZOBIUM MELILOTI	86-113	177-219	228-255	360-391					
PFLAV_CLOAP	FLAVODOXIN	CLOSTRIDIUM AP	18-52								
PFLAY_CAUCR	REGULATORY PROTEIN FLAY	CAULOBACTER CRESCENTUS	291-318	351-378							
PFLA_BACSU	FLAGELLIN	BACILLUS SUBTILIS	102-129	228-255							
PFLGG_BACSU	FLAGELLAR BASAL-BODY ROD PROTEIN FLGG	BACILLUS SUBTILIS	62-89								
PFLGK_SALTY	FLAGELLAR HOOK-ASSOCIATED PROTEIN 1	SALMONELLA TYPHIMURIUM	12-39	333-360	416-340						
PFLGL_ECOLI	FLAGELLAR HOOK-ASSOCIATED PROTEIN 3	ESCHERICHIA COLI	61-105	229-266							
PFLGL_SALTY	FLAGELLAR HOOK-ASSOCIATED PROTEIN 3	SALMONELLA TYPHIMURIUM	61-105	229-266							
PFLHD_ECOLI	FLAGELLAR TRANSCRIPTIONAL ACTIVATOR FLHD	ESCHERICHIA COLI	6-33								
PFLIA_PSEAE	FLAGELLAR OPERON RNA POL SIGMA FACTOR	PSEUDOMONAS AERUGINOSA	198-232								

PCGENE	10/21/94	Prokaryotic Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	ORGANISM									
PFLIC_ECOLI	FLAGELLIN	ESCHERICHIA COLI	3-41	186-213	293-329	431-466					
PFLIE_SALCH	FLAGELLIN	SALMONELLA CHOLERAE-SUIS	5-41	54-135	136-198						
PFLIC_SALMU	FLAGELLIN	SALMONELLA MUENCHEN	5-41	54-88	136-177	233-259	272-299	376-403			
PFLIC_SALPA	FLAGELLIN	SALMONELLA PARATYPHI-A	5-41	54-135	136-184						
PFLIC_SALRU	FLAGELLIN	SALMONELLA RUBISLAW	5-41	54-135	136-196						
PFLIC_SALTY	FLAGELLIN	SALMONELLA TYPHIMURIUM	5-41	54-135	136-200						
PFLIC_SERMA	FLAGELLIN	SERRATIA MARCESCENS	5-42	55-89	103-130	137-164	273-331				
PFLID_ECOLI	FLAGELLAR HOOK-ASSOCIATED PROTEIN 1	ESCHERICHIA COLI	33-66	106-133	160-187	218-298	318-445				
PFLID_SALTY	FLAGELLAR HOOK-ASSOCIATED PROTEIN 2	SALMONELLA TYPHIMURIUM	33-66	106-133	255-299	407-438					
PFLE_BACSU	FLAG HOOK-BASAL BODY PROTEIN FLIE	BACILLUS SUBTILIS	8-35								
PFLF_BACSU	FLAGELLAR M-RING PROTEIN	BACILLUS SUBTILIS	337-361	391-418							
PFLG_CAUCR	FLAGELLAR M-RING PROTEIN	CAULOBACTER CRESCENTUS	24-51	297-324	361-388						
PFLF_SALTY	FLAGELLAR M-RING PROTEIN	SALMONELLA TYPHIMURIUM	484-529								
PFLG_BACSU	FLAGELLAR SWITCH PROTEIN FLIG	BACILLUS SUBTILIS	13-43								
PFLG_ECOLI	FLAGELLAR SWITCH PROTEIN FLIG	ESCHERICHIA COLI	44-71	105-132							
PFLH1_BACSU	PROBABLE FLIH PROTEIN	BACILLUS SUBTILIS	19-46								
PFLJ_BACSU	FLAGELLAR FLIJ PROTEIN	BACILLUS SUBTILIS	2-35								
PFLJ_SALTY	FLAGELLAR FLIJ PROTEIN	SALMONELLA TYPHIMURIUM	75-118	117-144							
PFLK_BACSU	PROBABLE FLIK PROTEIN	BACILLUS SUBTILIS	30-51	78-105	109-136						
PFLL_BACSU	FLIL PROTEIN	BACILLUS SUBTILIS	105-132								
PFLL_ECOLI	FLIL PROTEIN	ESCHERICHIA COLI	107-133								
PFLL_SALTY	FLIL PROTEIN	SALMONELLA TYPHIMURIUM	148-175								
PFLM_BACSU	FLIM PROTEIN	BACILLUS SUBTILIS	231-258								
PFLM_ECOLI	FLIM PROTEIN	ESCHERICHIA COLI	56-83								
PFLN_CAUCR	FLAGELLAR MOTOR SWITCH PROTEIN	CAULOBACTER CRESCENTUS	59-86								
PFLS_ECOLI	FLAGELLAR PROTEIN FLIS	ESCHERICHIA COLI	19-46	67-106							
PFLT_SALTY	FLAGELLAR PROTEIN FLIT	SALMONELLA TYPHIMURIUM	30-67	86-114							
PFM13_PSEAE	FIMBRIAL PROTEIN PRECURSOR	PSEUDOMONAS AERUGINOSA	5-32								
PFM1A_ECOLI	TYPE-1 FIMBRIAL PROTEIN, A CHAIN PRECURSOR	ESCHERICHIA COLI	11-38								
PFM1C_ECOLI	TYPE-1 FIMBRIAL PROTEIN, C CHAIN PRECURSOR	ESCHERICHIA COLI	248-282	353-379	417-444						
PFM1_ACTVI	FIMBRIAL SUBUNIT TYPE 1 PRECURSOR	ACTINOMYCES VISCOSUS	114-141								
PFM99_ECOLI	FIMBRIAL PROTEIN M99 PRECURSOR	ESCHERICHIA COLI	110-137								
PFMA0_BACNO	FIMBRIAL PROTEIN PRECURSOR	BACTEROIDES NODOSUS	107-134								
PFMA1_BACNO	FIMBRIAL PROTEIN PRECURSOR	BACTEROIDES NODOSUS	107-134								
PFMA2_BACNO	FIMBRIAL PROTEIN PRECURSOR	BACTEROIDES NODOSUS	110-137								
PFMA7_BACNO	FIMBRIAL PROTEIN PRECURSOR	BACTEROIDES NODOSUS	123-150								
PFMAA_BACNO	FIMBRIAL PROTEIN PRECURSOR	BACTEROIDES NODOSUS	107-141								
PFMAF_BACNO	FIMBRIAL PROTEIN PRECURSOR	BACTEROIDES NODOSUS	95-122								
PFMAH_BACNO	FIMBRIAL PROTEIN PRECURSOR	BACTEROIDES NODOSUS	111-145								
PFMAI_BACNO	FIMBRIAL PROTEIN PRECURSOR	BACTEROIDES NODOSUS	96-123								
PFMAJ_BACNO	FIMBRIAL PROTEIN PRECURSOR	BACTEROIDES NODOSUS	76-97								
PFMCD_PSEAE	FIMBRIAL PROTEIN PRECURSOR	PSEUDOMONAS AERUGINOSA	106-144	335-382							
PFMDD_BACNO	POSSIBLE FIMBRIAL ASSEMBLY PROTEIN FIMD	BACTEROIDES NODOSUS	106-144	335-382							
PFMDH_BACNO	POSSIBLE FIMBRIAL ASSEMBLY PROTEIN FIMD	BACTEROIDES NODOSUS	106-144	335-382							
PFMF1_ECOLI	F17 FIMBRIAL PROTEIN PRECURSOR	ESCHERICHIA COLI	97-124								
PFMG1_NEIGO	FIMBRIAL PROTEIN PRECURSOR	NEISSERIA GONORRHOEAE	70-97								
PFMG2_NEIGO	FIMBRIAL PROTEIN PRECURSOR	NEISSERIA GONORRHOEAE	66-97								
PFMM_MORNO	FIMBRIAL PROTEIN PRECURSOR	MORAXELLA NONLIQUEFACIENS	108-146								
PFMP1_PSEAE	FIMBRIAL PROTEIN PRECURSOR	PSEUDOMONAS AERUGINOSA	70-97	80-114							
PFMP3_PSEAE	FIMBRIAL PROTEIN PRECURSOR	PSEUDOMONAS AERUGINOSA	70-97								
PFMS1_ECOLI	CS1 FIMBRIAL SUBUNIT A PRECURSOR	ESCHERICHIA COLI	60-87	112-139							
PFMS3_ECOLI	CS3 FIMBRIAL SUBUNIT A PRECURSOR	ESCHERICHIA COLI	49-98								
PFM_HAEIN	MAJOR FIMBRIAL SUBUNIT PRECURSOR	HAEMOPHILUS INFLUENZAE	102-129								
PFN9A_STAAU	FIBRONECTIN-BINDING PROTEIN PRECURSOR	STAPHYLOCOCCUS AUREUS	41-83	188-215	311-365	431-458	517-555	655-686	722-756		
PFOLC_ECOLI	FOLYLPOLYGLUTAMATE SYNTHASE	ESCHERICHIA COLI	123-159								
PFOLC_LACCA	FOLYLPOLYGLUTAMATE SYNTHASE	LACTOBACILLUS CASEI	128-156								
PFPO_BACFI	FORMAMIDOPYRIMIDINE-DNA GLYCOSYLASE	BACILLUS FIRMUS	153-180								

PCGENE	1107s17bit	Prokaryotic Sequences									
FILE_NAME	PROTEIN	ORGANISM	AREA1	AREA3	AREA2	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PFRDA_ECOLI	FUMARATE REDUCTASE FLAVOPROTEIN SUBUNIT	ESCHERICHIA COLI	395-422								
PFRDA_WOLSU	FUMARATE REDUCTASE FLAVOPROTEIN SUBUNIT	WOLINELLA SUCCINOGENES	6-33	487-514							
PFRZE_MYXXA	GLIDING MOTILITY REGULATORY PROTEIN	MYXOCOCCUS XANTHUS	13-43	478-505							
PFTHS_CLOTH	FORMATE--TETRAHYDROFOLATE LIGASE	CLOSTRIDIUM THERMOACETICUM	163-190								
PFTR_METTH	FORMYLTRANSFERASE	METHANOBACTERIUM THERMOAUTOTROPHICU	9-41								
PFTSA_BACSU	CELL DIVISION PROTEIN FTSA	BACILLUS SUBTILIS	76-110								
PFTSA_ECOLI	CELL DIVISION PROTEIN FTSA	ESCHERICHIA COLI	301-338	375-418							
PFTSJ_ECOLI	CELL DIVISION PROTEIN FTSJ	ESCHERICHIA COLI	6-31								
PFTSL_ECOLI	CELL DIVISION PROTEIN FTSL	ESCHERICHIA COLI	63-90								
PFTSN_ECOLI	CELL DIVISION PROTEIN FTSN	ESCHERICHIA COLI	131-188								
PFTSX_ECOLI	CELL DIVISION PROTEIN FTSX	ESCHERICHIA COLI	278-305								
PFTSY_ECOLI	CELL DIVISION PROTEIN FTSY	ESCHERICHIA COLI	230-260								
PFUCR_ECOLI	L-FUCOSE OPERON ACTIVATOR	ESCHERICHIA COLI	7-43								
PFUMA_BACST	FUMARATE HYDRATASE CLASS I, AEROBIC	BACILLUS STEAROTHERMOPHILUS	398-317								
PFUMA_BACSU	FUMARATE HYDRATASE	BACILLUS SUBTILIS	414-445								
PFUR_YERPE	FERRIC UPTAKE REGULATION PROTEIN	YERSINIA PESTIS	99-130								
PGJP1_ECOLI	GLYC 3-PHOS DEHYDROGENASE A	ESCHERICHIA COLI	302-329								
PGJP2_ANAVA	GLYC 3-PHOS DEHYDROGENASE 2	ANABAENA VARIABILIS	87-114								
PGJP3_ANAVA	GLYC 3-PHOS DEHYDROGENASE 3	ANABAENA VARIABILIS	162-189								
PGJP3_ECOLI	GLYC 3-PHOS DEHYDROGENASE C	ESCHERICHIA COLI	236-324								
PGJP_BACME	GLYC 3-PHOS DEHYDROGENASE	BACILLUS MEGATERIUM	49-76	217-271							
PGJP_BACSU	GLYC 3-PHOS DEHYDROGENASE	BACILLUS SUBTILIS	49-76								
PGJP_PYRWO	GLYC 3-PHOS DEHYDROGENASE	PYROCOCCUS WOESEI	259-286								
PGJP_THEMA	GLYC 3-PHOS DEHYDROGENASE	THERMOTOGA MARITIMA	290-318								
PGKB_BACST	GLUCOSE-6-PHOSPHATE ISOMERASE B	BACILLUS STEAROTHERMOPHILUS	103-143	241-268							
PGKPD_ECOLI	GLUCOSE-6-PHOSPHATE 1-DEHYDROGENASE	ESCHERICHIA COLI	301-338								
PGKPD_ZYMMO	GLUCOSE-6-PHOSPHATE 1-DEHYDROGENASE	ZYMOMONAS MOBILIS	163-193								
PGKA_PSEFL	CYANIDE CONTROL PROTEIN	PSEUDOMONAS FLUORESCENS	178-203								
PGAL1_SALTY	GALACTOKINASE	SALMONELLA TYPHIMURIUM	86-113								
PGALT_HAEIN	GAL-1-PHOS URIDYLYLTRANSFERASE	HAEMOPHILUS INFLUENZAE	124-158	219-269							
PGALT_LACHE	GAL-1-PHOS URIDYLYLTRANSFERASE	LACTOBACILLUS HELVETICUS	304-338								
PGALT_SALTY	GALACTOSE OPERON REPRESSOR	SALMONELLA TYPHIMURIUM	53-91								
PGALR_HAEIN	GALACTOSE OPERON REPRESSOR	HAEMOPHILUS INFLUENZAE	182-209								
PGAL_PSEFL	DE D-GALACTOSE 1-DEHYDROGENASE	PSEUDOMONAS FLUORESCENS	251-278								
PGCH2_ECOLI	GTP CYCLOHYDROLASE II	ESCHERICHIA COLI	78-105								
PGCH_PHOLE	GTP CYCLOHYDROLASE II	PHOTOBACTERIUM LEIOGNATHI	197-227	246-273							
PGCSH_ECOLI	GLYCINE CLEAVAGE SYSTEM H PROTEIN	ESCHERICHIA COLI	10-37								
PGCSP_ECOLI	GLYCINE DEHYDROGENASE	ESCHERICHIA COLI	216-246								
PGCVA_ECOLI	GLYCINE CLEAVAGE SYSTEM TRANSACTIVATOR	ESCHERICHIA COLI	60-94								
PGENK_ECOLI	PROTEIN K	ESCHERICHIA COLI	24-51								
PGER1_BACSU	SPORE GERMINATION PROTEIN 1	BACILLUS SUBTILIS	49-83	182-216	330-384						
PGERA_BACSU	SPORE GERMINATION PROTEIN III PRECURSOR	BACILLUS SUBTILIS	293-323								
PGERE_BACSU	GERMINATION PROTEIN GERE	BACILLUS SUBTILIS	13-40								
PGGII_STAHA	ANTIBACTERIAL PROTEIN 2	STAPHYLOCOCCUS HAEMOLYTICUS	6-33								
PGGII_STAHA	ANTIBACTERIAL PROTEIN 3	STAPHYLOCOCCUS HAEMOLYTICUS	6-33								
PGIDA_BACSU	GLUCOSE INHIBITED DIVISION PROTEIN A	BACILLUS SUBTILIS	196-423								
PGIDA_ECOLI	GLUCOSE INHIBITED DIVISION PROTEIN A	ESCHERICHIA COLI	333-368								
PGIDA_PSEPU	GLUCOSE INHIBITED DIVISION PROTEIN A	PSEUDOMONAS PUTIDA	339-366								
PGIDB_BACSU	GLUCOSE INHIBITED DIVISION PROTEIN B	BACILLUS SUBTILIS	34-61								
PGIDB_PSEPU	GLUCOSE INHIBITED DIVISION PROTEIN B	PSEUDOMONAS PUTIDA	25-52								
PGLCP_SYNY3	GLUCOSE TRANSPORT PROTEIN	SYNECHOCYSTIS SP	288-322								
PGLDA_BACST	GLYCEROL DEHYDROGENASE	BACILLUS STEAROTHERMOPHILUS	20-79								
PGLGA_ECOLI	GLYCOGEN SYNTHASE	ESCHERICHIA COLI	256-283								
PGLGC_ECOLI	GLUCOSE-1-PHOSPHATE ADENYLYLTRANSFERASE	ESCHERICHIA COLI	114-141								
PGLGC_SALTY	GLUCOSE-1-PHOSPHATE ADENYLYLTRANSFERASE	SALMONELLA TYPHIMURIUM	114-141								
PGLUS_ECOLI	GLUC--FRUC-6-PHOSPHOTRANSFERASE	ESCHERICHIA COLI	209-243								
PGLNI_METTL	GLNB-LIKE PROTEIN 1	METHANOCOCCUS THERMOLITHOTROPHICUS	58-85								

PCGENE	Prokaryotic Sequences										
FILENAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PGLNA_ANASP	GLUTAMINE SYNTHETASE	ANABAENA SP	8-42								
PGLNA_BACSU	GLUTAMINE SYNTHETASE	BACILLUS SUBTILIS	4-31								
PGLNA_CLOAB	GLUTAMINE SYNTHETASE	CLOSTRIDIUM ACETOBUTYLICUM	413-440								
PGLNA_ECOLI	GLUTAMINE SYNTHETASE	ESCHERICHIA COLI	144-171								
PGLNA_METVO	GLUTAMINE SYNTHETASE	METHANOCOCCUS VOLTAE	203-230								
PGLNA_PROVU	GLUTAMINE SYNTHETASE	PROTEUS VULGARIS	142-169								
PGLNA_PYRFU	GLUTAMINE SYNTHETASE	PYROCOCCUS FURIOSUS	393-421								
PGLNA_SALTY	GLUTAMINE SYNTHETASE	SALMONELLA TYPHIMURIUM	144-171								
PGLNA_STRCO	GLUTAMINE SYNTHETASE	STREPTOMYCES COELICOLOR	186-211								
PGLNB_AZOBR	NITROGEN REGULATORY PROTEIN P-II	AZOSPIRILLUM BRASILENSE	15-40								
PGLNB_RHOCA	NITROGEN REGULATORY PROTEIN P-II	RHODOBACTER CAPSULATUS	15-40								
PGLNB_SYNPX	NITROGEN REGULATORY PROTEIN P-II	SYNECHOCOCCUS SP	52-79								
PGLND_ECOLI	UDP URIDYLYLTRANSFERASE	ESCHERICHIA COLI	120-147	151-178							
PGLND_SALTY	UDP URIDYLYLTRANSFERASE	SALMONELLA TYPHIMURIUM	151-178								
PGLNE_ECOLI	ADENYLYLTRANSFERASE	ESCHERICHIA COLI	103-130	413-440	761-790						
PGLNH_ECOLI	GLUTAMINE-BINDING PROTEIN PRECURSOR	ESCHERICHIA COLI	126-153								
PGLNQ_BACST	GLUTAMINE PERMEASE OPERON PROTEIN GLNQ	BACILLUS STEAROTHERMOPHILUS	7-34								
PGLPD_BACSU	AEROBIC GLYCOL PHOS DEHYDROGENASE	BACILLUS SUBTILIS	194-220								
PGLPD_ECOLI	AEROBIC GLYCOL PHOS DEHYDROGENASE	ESCHERICHIA COLI	410-437								
PGLPF_BACSU	GLYCEROL UPTAKE FACILITATOR PROTEIN	BACILLUS SUBTILIS	235-274								
PGLPK_BACSU	GLYCEROL KINASE	BACILLUS SUBTILIS	44-93								
PGLPK_ECOLI	GLYCEROL KINASE	ESCHERICHIA COLI	56-90								
PGLPR_ECOLI	GLYCEROL-3-PHOSPHATE REGULON REPRESSOR	ESCHERICHIA COLI	5-32								
PGLPX_ECOLI	GLPX PROTEIN	ESCHERICHIA COLI	297-324								
PGLPX_SHIFL	GLPX PROTEIN	SHIGELLA FLEXNERI	297-324								
PGLSX_ECOLI	GLUTAREDOXIN	ESCHERICHIA COLI	24-51								
PGLTB_ECOLI	GLUTAMATE SYNTHASE	ESCHERICHIA COLI	482-509								
PGLTP_ECOLI	PROTON GLUTAMATE SYMPORT PROTEIN	ESCHERICHIA COLI	119-146								
PGLVB_ECOLI	PHOSPHOTRANSFERASE ENZYME TYPE IIB	ESCHERICHIA COLI	130-157								
PGLYA_BRAJA	SERINE HYDROXYMETHYLTRANSFERASE	BRADYRHIZOBIUM JAPONICUM	29-60								
PGLYA_CAMJE	SERINE HYDROXYMETHYLTRANSFERASE	CAMPYLOBACTER JEJUNI	376-401								
PGLYA_HYPME	SERINE HYDROXYMETHYLTRANSFERASE	HYPHOMICROBIUM METHYLOVORUM	28-55								
PGMO1_BACSU	COMO OPERON PROTEIN 7	BACILLUS SUBTILIS	17-67	88-132							
PGNTK_BACSU	GLUCONOKINASE	BACILLUS SUBTILIS	218-271								
PGP1D_CHLTR	VIRULENCE PROTEIN PGP1-D	CHLAMYDIA TRACHOMATIS	113-353								
PGP2D_CHLTR	VIRULENCE PROTEIN PGP2-D	CHLAMYDIA TRACHOMATIS	97-111								
PGP3D_CHLTR	VIRULENCE PROTEIN PGP3-D	CHLAMYDIA TRACHOMATIS	24-51								
PGP4D_CHLTR	VIRULENCE PROTEIN PGP4-D	CHLAMYDIA TRACHOMATIS	61-106	191-220							
PGP5D_CHLTR	VIRULENCE PROTEIN PGP5-D	CHLAMYDIA TRACHOMATIS	12-60								
PGP6D_CHLTR	VIRULENCE PROTEIN PGP6-D	CHLAMYDIA TRACHOMATIS	94-121								
PGRLA_ECOLI	TRANSCRIPTION ELONGATION FACTOR GREA	ESCHERICHIA COLI	15-49								
PGRPE_BACSU	GRPE-LIKE PROTEIN	BACILLUS SUBTILIS	22-51								
PGRPE_BORBU	GRPE-LIKE PROTEIN	BORRELIA BURGDORFERI	2-79								
PGRPE_CLOAB	GRPE-LIKE PROTEIN	CLOSTRIDIUM ACETOBUTYLICUM	12-81								
PGRSA_BACSU	GRAMICIDIN S SYNTHETASE	BACILLUS BREVIS	545-572	799-826	840-882	1011-1062					
PGRSB_BACBR	GRAMICIDIN S SYNTHETASE B	BACILLUS BREVIS	48-75	94-121	241-282	1126-1153	1213-1240	2162-2189	2539-2586	2819-2846	3606-3633
PGSHI_ECOLI	GLUTAMATE--CYSTEINE LIGASE	ESCHERICHIA COLI	339-366	374-401							
PGSIR_ECOLI	GLUTATHIONE REDUCTASE	ESCHERICHIA COLI	100-134	270-311							
PGSIR_PSEAE	GLUTATHIONE REDUCTASE	PSEUDOMONAS AERUGINOSA	80-114								
PGSTA_BACSU	STARVATION-INDUCIBLE PROTEIN A	BACILLUS SUBTILIS	74-101	265-296							
PGSTD_ERWCA	PROTEIN D PRECURSOR	ERWINIA CAROTOVORA	258-285	316-343	389-419						
PGSTD_ERWCH	PROTEIN D PRECURSOR	ERWINIA CHRYSANTHEMI	259-302	307-338	351-378	639-686					
PGSTD_KLEPN	PROTEIN D PRECURSOR	KLEBSIELLA PNEUMONIAE	259-286								
PGSTE_ERWCA	PROTEIN E	ERWINIA CAROTOVORA	328-367								
PGSTE_ERWCH	PROTEIN E	ERWINIA CHRYSANTHEMI	328-367								
PGSTE_KLEPN	PROTEIN E	KLEBSIELLA PNEUMONIAE	333-361								
PGSTE_PSEAE	PROTEIN E	PSEUDOMONAS AERUGINOSA	122-149	331-369							

PCGENE	107a178a4	Prokaryotic Sequences									
FILE NAME	PROTEIN	ORGANISM	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PGSPF_XANCP	PROTEIN F	XANTHOMONAS CAMPESTRIS	230-257								
PGSPH_PSEAE	PROTEIN H PRECURSOR	PSEUDOMONAS AERUGINOSA	18-59								
PGSPI_AERHY	PROTEIN I PRECURSOR	AEROMONAS HYDROPHILA	27-61								
PGSPI_ERWCA	PROTEIN I PRECURSOR	ERWINIA CAROTOVORA	35-82								
PGSPJ_KLEPN	PROTEIN J PRECURSOR	KLEBSIELLA PNEUMONIAE	140-167								
PGSPK_ERWCA	PROTEIN K	ERWINIA CAROTOVORA	28-55								
PGSPK_ERWCH	PROTEIN K	ERWINIA CHRYSANTHEMI	28-55								
PGSPK_KLEPN	PROTEIN K	KLEBSIELLA PNEUMONIAE	72-99								
PGSPK_PSEAE	PROTEIN K	PSEUDOMONAS AERUGINOSA	262-289								
PGSPL_ERWCH	PROTEIN L	ERWINIA CHRYSANTHEMI	7-42	248-286	331-358						
PGSPL_XANCP	PROTEIN L	XANTHOMONAS CAMPESTRIS	39-73	297-324							
PGSPM_ERWCA	PROTEIN M	ERWINIA CAROTOVORA	108-145								
PGSQD_ERWCH	PROTEIN D PRECURSOR	ERWINIA CHRYSANTHEMI	259-302	448-475	546-573	657-684					
PGTF1_STRDO	GLUCOSYLTRANSFERASE-I PRECURSOR	STREPTOCOCCUS DOWNEI	42-69	177-204	212-239	464-491	1382-1416	1495-1529			
PGTF2_STRDO	GLUCOSYLTRANSFERASE-I PRECURSOR	STREPTOCOCCUS DOWNEI	171-198	206-233	458-485	1382-1412	1497-1524				
PGTFA_STRMU	GLUCOSYLTRANSFERASE-S	STREPTOCOCCUS MUTANS	297-330								
PGTFB_STRMU	GLUCOSYLTRANSFERASE-I PRECURSOR	STREPTOCOCCUS MUTANS	42-93	110-137	161-188	199-246	313-347	592-627			
PGTFC_STRMU	GLUCOSYLTRANSFERASE-SI PRECURSOR	STREPTOCOCCUS MUTANS	4-40	110-138	235-262	330-361	614-653				
PGTFS_STRDO	GLUCOSYLTRANSFERASE-S PRECURSOR	STREPTOCOCCUS DOWNEI	275-316	436-463	1281-1315						
PGTMG_METTF	POSSIBLE G-T MISMATCHES REPAIR ENZYME	METHANOBACTERIUM THERMOFORMICICUM	80-107	148-175							
PGUAA_BACSU	GMP SYNTHASE	BACILLUS SUBTILIS	314-348	399-436	478-505						
PGUAA_ECOLI	GMP SYNTHASE	ESCHERICHIA COLI	105-132								
PGUB_BACCI	BETA-GLUCANASE PRECURSOR	BACILLUS CIRCULANS	164-191								
PGUB_BACLI	BETA-GLUCANASE PRECURSOR	BACILLUS LICHENIFORMIS	132-166								
PGUB_BACMA	BETA-GLUCANASE PRECURSOR	BACILLUS MACERANS	126-160								
PGUN1_BACSH	ENDOGLUCANASE A	BACILLUS SP	18-49								
PGUN1_BACSU	ENDOGLUCANASE PRECURSOR	BACILLUS SUBTILIS	270-304	376-403							
PGUN1_BUTFI	ENDOGLUCANASE I	BUTYRIVIBRIO FIBRISOLVENS	154-181	452-495							
PGUN2_BACSU	ENDOGLUCANASE PRECURSOR	BACILLUS SUBTILIS	270-304								
PGUN2_THEFU	ENDOGLUCANASE E-2 PRECURSOR	THERMOMONOSPORA FUSCA	201-228								
PGUN3_BACSH	ENDOGLUCANASE C PRECURSOR	BACILLUS SP	110-137	348-378	538-565						
PGUN3_BACSU	ENDOGLUCANASE PRECURSOR	BACILLUS SUBTILIS	270-304								
PGUN3_FIBSU	ENDOGLUCANASE 3 PRECURSOR	FIBROBACTER SUCCINOGENES	542-586								
PGUN4_THEFU	ENDOGLUCANASE E-4 PRECURSOR	THERMOMONOSPORA FUSCA	308-342								
PGUN5_THEFU	ENDOGLUCANASE E-5 PRECURSOR	THERMOMONOSPORA FUSCA	44-71								
PGUNA_BACLA	ENDOGLUCANASE A PRECURSOR	BACILLUS LAUTUS	410-437	454-481							
PGUNA_CLOTM	ENDOGLUCANASE A PRECURSOR	CLOSTRIDIUM THERMOCELLUM	354-384								
PGUNA_PSEFL	ENDOGLUCANASE A PRECURSOR	PSEUDOMONAS FLUORESCENS	762-789								
PGUNA_RUMAL	ENDOGLUCANASE A	RUMINOCOCCUS ALBUS	294-321								
PGUNA_RUMFL	CELLODEXTRINASE A	RUMINOCOCCUS FLAVEFACIENS	276-303								
PGUNB_BACLA	ENDOGLUCANASE B PRECURSOR	BACILLUS LAUTUS	375-450								
PGUNB_CALSA	ENDOGLUCANASE B	CALDOCELLUM SACCHAROLYTICUM	151-182	444-478							
PGUNB_CELFI	ENDOGLUCANASE B PRECURSOR	CELLULOMONAS FIMI	266-293								
PGUNB_CLOCL	ENDOGLUCANASE B PRECURSOR	CLOSTRIDIUM CELLULOVORANS	144-171	266-300							
PGUNB_CLOTM	ENDOGLUCANASE B PRECURSOR	CLOSTRIDIUM THERMOCELLUM	514-541								
PGUNC_CELFI	ENDOGLUCANASE C PRECURSOR	CELLULOMONAS FIMI	881-908								
PGUNC_PSEFL	ENDOGLUCANASE C PRECURSOR	PSEUDOMONAS FLUORESCENS	52-82								
PGUND_CLOCE	ENDOGLUCANASE D PRECURSOR	CLOSTRIDIUM CELLULOLYTICUM	382-453								
PGUND_CLOCL	ENDOGLUCANASE D PRECURSOR	CLOSTRIDIUM CELLULOLYTICUM	145-172	271-298							
PGUNE_CLOTM	ENDOGLUCANASE E PRECURSOR	CLOSTRIDIUM THERMOCELLUM	158-185	207-234	284-311						
PGUNH_CLOTM	ENDOGLUCANASE H PRECURSOR	CLOSTRIDIUM THERMOCELLUM	46-73	425-452							
PGUNS_ERWCA	ENDOGLUCANASE PRECURSOR	ERWINIA CAROTOVORA	20-47	115-149							
PGUNX_CLOTM	PUTATIVE ENDOGLUCANASE X	CLOSTRIDIUM THERMOCELLUM	105-139								
PGUNZ_CLOSR	ENDOGLUCANASE Z PRECURSOR	CLOSTRIDIUM STERCORARIUM	296-326	522-549							
PGUN_BACPO	ENDOGLUCANASE	BACILLUS POLYMYXA	198-225								
PGUN_BACS1	ENDOGLUCANASE PRECURSOR	BACILLUS SP	321-348								
PGUN_BACS6	ENDOGLUCANASE PRECURSOR	BACILLUS SP	198-229	501-528	623-664						

PGENE	1871178d	Prokaryotic Sequences									
FILE_NAME	PROTEIN	ORGANISM	AREA1	AREA1	AREA1	AREA4	AREA5	AREA6	AREA7	AREA1	AREA2
PGUTD_ECOLI	SORBITOL-6-PHOSPHATE 1-DEHYDROGENASE	ESCHERICHIA COLI	138-165								
PGVPI_HALHA	GAS VESICLE PROTEIN, PLASMID	HALOBACTERIUM HALOBIUM	36-63								
PGVPI_HALHA	GAS VESICLE PROTEIN, CHROMOSOMAL	HALOBACTERIUM HALOBIUM	36-63								
PGVPA_APAFL	GAS VESICLE PROTEIN	APHANIZOMENON FLOS-AQUAE	4-31	39-66							
PGVPA_FRED	GAS VESICLE PROTEIN	FREMYELLA DIPLOSIPHON	4-31	39-66							
PGVPA_HALME	GAS VESICLE PROTEIN	HALOBACTERIUM MEDITERRANEI	17-44								
PGVPA_MICBC	GAS VESICLE PROTEIN	MICROCYSTIS SP	39-66								
PGVPA_PSEAN	GAS VESICLE PROTEIN	PSEUDOANABAENA SP	4-31	39-66							
PGVPC_APAFL	GAS VESICLE PROTEIN C	APHANIZOMENON FLOS-AQUAE	8-49								
PGVPC_HALHA	GAS VESICLE PROTEIN C	HALOBACTERIUM HALOBIUM	150-249								
PGVPC_HALME	GAS VESICLE PROTEIN C	HALOBACTERIUM MEDITERRANEI	139-169								
PGVPD_HALHA	GVPD PROTEIN, PLASMID	HALOBACTERIUM HALOBIUM	110-147								
PGVPD_HALME	GVPD PROTEIN	HALOBACTERIUM MEDITERRANEI	110-147								
PGVPF_HALHA	GVPF PROTEIN, PLASMID	HALOBACTERIUM HALOBIUM	13-47	135-167							
PGVPF_HALME	GVPF PROTEIN	HALOBACTERIUM MEDITERRANEI	13-47								
PGVPF_HALSA	GVPF PROTEIN	HALOBACTERIUM SALINARIUM	8-49								
PGVPG_HALHA	GVPG PROTEIN, PLASMID	HALOBACTERIUM HALOBIUM	38-85								
PGVPG_HALME	GVPG PROTEIN	HALOBACTERIUM MEDITERRANEI	38-72								
PGVPH_HALHA	GVPH PROTEIN	HALOBACTERIUM HALOBIUM	10-40								
PGVPI_HALME	GVPI PROTEIN	HALOBACTERIUM MEDITERRANEI	5-32								
PGVPK_HALHA	GVPK PROTEIN	HALOBACTERIUM HALOBIUM	45-76								
PGVPK_HALME	GVPK PROTEIN	HALOBACTERIUM MEDITERRANEI	15-39	47-74							
PGVPK_HALSA	GVPK PROTEIN	HALOBACTERIUM SALINARIUM	11-38	50-77							
PGVPL_HALME	GVPL PROTEIN	HALOBACTERIUM MEDITERRANEI	44-78								
PGVPN_HALHA	GVPN PROTEIN	HALOBACTERIUM HALOBIUM	113-140								
PGVPN_HALME	GVPN PROTEIN	HALOBACTERIUM MEDITERRANEI	13-36								
PGVPO_HALME	GVPO PROTEIN	HALOBACTERIUM MEDITERRANEI	69-96	103-132							
PGYRA_BACSU	DNA GYRASE SUBUNIT A	BACILLUS SUBTILIS	380-407	439-499							
PGYRA_CAMJE	DNA GYRASE SUBUNIT A	CAMPYLOBACTER JEJUNI	367-390	388-408	412-439	665-695					
PGYRA_ECOLI	DNA GYRASE SUBUNIT A	ESCHERICHIA COLI	366-393	449-497							
PGYRA_KLEPN	DNA GYRASE SUBUNIT A	KLEBSIELLA PNEUMONIAE	366-393	448-496	518-545						
PGYRA_MYCPN	DNA GYRASE SUBUNIT A	MYCOPLASMA PNEUMONIAE	4-31								
PGYRA_STAAU	DNA GYRASE SUBUNIT A	STAPHYLOCOCCUS AUREUS	129-156	340-373	430-459	647-674	812-839				
PGYRB_BACSU	DNA GYRASE SUBUNIT B	BACILLUS SUBTILIS	198-239								
PGYRB_BORBU	DNA GYRASE SUBUNIT B	BORRELIA BURGDORFERI	134-181								
PGYRB_ECOLI	DNA GYRASE SUBUNIT B	ESCHERICHIA COLI	616-643								
PGYRB_HALSQ	DNA GYRASE SUBUNIT B	HALOFERAX SP	230-257								
PGYRB_MYCPN	DNA GYRASE SUBUNIT B	MYCOPLASMA PNEUMONIAE	249-283								
PGYRB_NEIGO	DNA GYRASE SUBUNIT B	NEISSERIA GONORRHOEAE	524-558	618-645							
PGYRB_PSEPU	DNA GYRASE SUBUNIT B	PSEUDOMONAS PUTIDA	122-149	684-711							
PGYRB_SPICI	DNA GYRASE SUBUNIT B	SPIROPLASMA CITRI	40-74	189-238	283-310	341-368	540-579				
PGYRB_STAAU	DNA GYRASE SUBUNIT B	STAPHYLOCOCCUS AUREUS	253-279	291-318							
PHDHA_ECOLI	7-ALPHA-HYDROXYSTEROID DEHYDROGENASE	ESCHERICHIA COLI	71-98								
PHELD_ECOLI	HELICASE IV	ESCHERICHIA COLI	100-134	529-556							
PHIEL_HAEIN	LIPOPROTEIN E PRECURSOR	HAEMOPHILUS INFLUENZAE	58-85								
PHIEM_CHLVI	GLUTAMYL-TRNA REDUCTASE	CHLOROBIUM VIBRIOFORMES	233-259								
PHIEM_ECOLI	GLUTAMYL-TRNA REDUCTASE	ESCHERICHIA COLI	289-316								
PHIEM_RHOSH	5-AMINOLEVULINIC ACID SYNTHASE	RHODOBACTER SPHAEROIDES	93-100								
PHIEM_SALTY	GLUTAMYL-TRNA REDUCTASE (	SALMONELLA TYPHIMURIUM	289-316	344-371							
PHIEM_SYNY3	GLUTAMYL-TRNA REDUCTASE	SYNECHOCYSTIS SP	163-190	350-377							
PHIEM_METSC	DELTA-AMINOLEVULINIC ACID DEHYDRATASE	METHANOTHERMUS SOCIABILIS	111-138								
PHEM4_BACSU	PUTATIVE UROPORPHYRINOGEN-III SYNTHASE	BACILLUS SUBTILIS	10-37								
PHEM4_ECOLI	UROPORPHYRINOGEN-III SYNTHASE	ESCHERICHIA COLI	211-238								
PHEM4_ECOLI	HEMD PROTEIN	ESCHERICHIA COLI	147-174								
PHEM4_YEREN	HEMD RECEPTOR PRECURSOR	YERSINIA ENTEROCOLITICA	234-261								
PHEMA_ECOLI	PUTATIVE METHYLTRANSFERASE	ESCHERICHIA COLI	60-138	185-219							
PHEMY_BACSU	HEMY PROTEIN	BACILLUS SUBTILIS	217-263								

PGENE	Prokaryotic Sequences										
FILE NAME	PROTEIN	ORGANISM	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA2
PHEMZ_BACSU	FERROCHELATASE	BACILLUS SUBTILIS	199-226								
PHETA_ANASP	HETEROCYST DIFFERENTIATION PROTEIN	ANABAENA SP	184-211	337-358	321-365						
PHEXA_STRPN	DNA MISMATCH REPAIR PROTEIN HEXA	STREPTOCOCCUS PNEUMONIAE	426-440								
PHEXB_STRPN	DNA MISMATCH REPAIR PROTEIN HEXB	STREPTOCOCCUS PNEUMONIAE	470-497								
PHFAB_CAUCR	POS TRANSACTIVATOR PROTEIN HFAB	CAULOBACTER CRESCENTUS	98-125								
PHFLC_ECOLI	HFLC PROTEIN	ESCHERICHIA COLI									
PHFLX_ECOLI	GTP-BINDING PROTEIN HFLX	ESCHERICHIA COLI	113-140								
PHFQ_ECOLI	HOST FACTOR-I PROTEIN	ESCHERICHIA COLI	169-196								
PHIFC_HAEIN	FILIATION PROTEIN HIFC PRECURSOR	HAEMOPHILUS INFLUENZAE	24-51								
PHIS1_LACLA	PHOSPHORIBOSYL-ANP CYCLOHYDROLASE	LACTOCOCCUS LACTIS	156-183	404-431	447-474						
PHIS4_ECOLI	P-I-A CARBOXAMIDE RIBOTIDE	ESCHERICHIA COLI	126-154								
PHIS5_LACLA	P-I-A CARBOXAMIDE RIBOTIDE	LACTOCOCCUS LACTIS	125-139								
PHIS4_METVA	P-I-A CARBOXAMIDE RIBOTIDE	METHANOCOCCUS VANNIELII	69-89	181-228							
PHIS4_SALTY	P-I-A CARBOXAMIDE RIBOTIDE	SALMONELLA TYPHIMURIUM	113-142								
PHIS5_LACLA	AMIDOTRANSFERASE HISH	LACTOCOCCUS LACTIS	125-159								
PHIS4_ECOLI	HISF PROTEIN	ESCHERICHIA COLI	7-34								
PHIS4_SALTY	HISF PROTEIN	SALMONELLA TYPHIMURIUM	39-66	142-169							
PHIS7_ECOLI	IMIDAZOLEGLYCEROL-PHOSPHATE DEHYDRATASE	ESCHERICHIA COLI	39-66	142-169							
PHIS7_SALTY	IMIDAZOLEGLYCEROL-PHOSPHATE DEHYDRATASE	SALMONELLA TYPHIMURIUM	168-199								
PHIS8_ECOLI	HISTIDINOL-PHOSPHATE AMINOTRANSFERASE	ESCHERICHIA COLI	161-199								
PHIS8_HALVO	HISTIDINOL-PHOSPHATE AMINOTRANSFERASE	HALOBACTERIUM VOLCANII	290-317								
PHIS8_LACLA	HISTIDINOL-PHOSPHATE AMINOTRANSFERASE	LACTOCOCCUS LACTIS	174-201								
PHIS8_SALTY	HISTIDINOL-PHOSPHATE AMINOTRANSFERASE	SALMONELLA TYPHIMURIUM	161-188								
PHISQ_SALTY	HISTIDINE PERMEASE MEMBRANE Q PROTEIN	SALMONELLA TYPHIMURIUM	295-320								
PHISX_ECOLI	HISTIDINOL DEHYDROGENASE	ESCHERICHIA COLI	8-35								
PHISX_LACLA	HISTIDINOL DEHYDROGENASE	LACTOCOCCUS LACTIS	393-434								
PHISX_MYCSM	HISTIDINOL DEHYDROGENASE	MYCOBACTERIUM SMEGMATIS	19-46	264-303							
PHISX_SALTY	HISTIDINOL DEHYDROGENASE	SALMONELLA TYPHIMURIUM	288-329	399-430							
PHLA_STAAU	ALPHA-HEMOLYSIN PRECURSOR	STAPHYLOCOCCUS AUREUS	393-434								
PHLYI_ECOLI	HEMOLYSIN A, CHROMOSOMAL	ESCHERICHIA COLI	69-103								
PHLY2_ECOLI	HAEMOLYSIN SECRETION PROTEIN, CHROMOSOMA	ESCHERICHIA COLI	5-32	76-103	161-224	234-261	351-380	438-492	534-581	642-728	
PHLY3_ECOLI	HEMOLYSIN D, CHROMOSOMAL	ESCHERICHIA COLI	407-514								
PHLYA_ACTPL	HEMOLYSIN	ACTINOBACILLUS PLEUROPNEUMONIAE	103-133	178-215	221-331						
PHLYA_ECOLI	HEMOLYSIN A, PLASMID	ESCHERICHIA COLI	5-39	136-176	184-218	271-300	350-377	459-527	846-924		
PHLYA_PROMI	HEMOLYSIN PRECURSOR	PROTEUS MIRABILIS	165-196	299-338	336-400	425-471	498-525	528-576	610-695	705-743	747-774
PHLYA_SERMA	HEMOLYSIN PRECURSOR	SERRATIA MARCESCENS	789-823	841-868	964-993	1113-1140	1166-1193	1325-1373	1361-1342	1391-1461	1483-1527
PHLYA_VIBCH	HEMOLYSIN PRECURSOR	VIBRIO CHOLERAE	1516-1553	477-504	538-583	623-703	718-745	830-864	1081-1108	1135-1202	1249-1286
PHLYB_ACTPL	HAEMOLYSIN SECRETION PROTEIN	ACTINOBACILLUS PLEUROPNEUMONIAE	335-369	618-665							
PHLYB_ECOLI	HAEMOLYSIN SECRETION PROTEIN, PLASMID	ESCHERICHIA COLI	34-61								
PHLYB_PROMI	HEMOLYSIN ACTIVATION PROTEIN PRECURSOR	PROTEUS MIRABILIS	487-514								
PHLYB_PROVU	HAEMOLYSIN SECRETION PROTEIN	PROTEUS VULGARIS	16-44	499-547							
PHLYB_SERMA	HEMOLYSIN ACTIVATOR PROTEIN PRECURSOR	SERRATIA MARCESCENS	34-68	487-514							
PHLYB_VIBCH	HEMOLYSIN SECRETION PROTEIN PRECURSOR	VIBRIO CHOLERAE	110-137								
PHLYC_ACTPL	HEMOLYSIN C	ACTINOBACILLUS PLEUROPNEUMONIAE	335-398	413-447	458-524						
PHLYD_ACTPL	HEMOLYSIN SECRETION PROTEIN APPD	ACTINOBACILLUS PLEUROPNEUMONIAE	130-157								
PHLYD_ECOLI	HEMOLYSIN D, PLASMID	ESCHERICHIA COLI	191-331								
PHLY_HALLT	HALOLYSIN PRECURSOR	HALOPHILIC BACTERIA STRAIN 172P1	103-133	178-215	223-331						
PHMCI_DESVH	413 KD PROTEIN IN MMC OPERON	DESULFOVIBRIO VULGARIS	488-516								
PHMD_METJA	HYDROGENOPHOSPHONATE KINASE	METHANOPYRUS KANDLERI	156-186								
PHNS_SERMA	DNA-BINDING PROTEIN H-NS	SERRATIA MARCESCENS	36-63								
PHOLA_ECOLI	DNA POLYMERASE III, DELTA SUBUNIT	ESCHERICHIA COLI	33-62								
PHOXA_BRAJA	REQ PROTEIN HOXA	BRADYRHIZOBIUM JAPONICUM	94-121	288-322							
PHOXP_NOCOP	HOXS ALPHA SUBUNIT	NOCARDIA OPACA	113-163	444-471							
PHOXQ_ALCEU	HOXQ PROTEIN	ALCALIGENES EUTROPHUS	4-31								
			76-110								

PCGENE	10?1?1?14	Prokaryotic Sequences								
FILENAME	PROTEIN	ORGANISM	AREA 1	AREA 1	AREA 2	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PHOX_BRAJA	HOXX PROTEIN	BRADYRHIZOBIUM JAPONICUM	338-383								
PIPI_DEIRA	HEXAGONALLY SURFACE PROTEIN PRECURSOR	DEINOCOCCUS RADIODURANS	583-611								
PIPRT_LACLA	PHOSPHORIBOSYLTRANSFERASE	LACTOCOCCUS LACTIS	1-39	71-105							
PIUDO_STRCO	SIGMA FACTOR HRDD	STREPTOMYCES COELICOLOR	296-323								
PHUB_BURSO	REGULATORY PROTEIN HUB	BURKHOLDERIA SOLANACEARUM	171-205								
PHOPH_PSESY	OUTER MEMBRANE PROTEIN HOPH PRECURSOR	PSEUDOMONAS SYRINGAE	102-129	316-344							
PHUS_PSESH	PROBABLE REGULATORY PROTEIN HUS	PSEUDOMONAS SYRINGAE	24-51								
PHSII_CLOAB	18 KD HEAT SHOCK PROTEIN	CLOSTRIDIUM ACETOBUTYLICUM	87-108								
PIIS70_HALMA	HEAT SHOCK 70 KD PROTEIN	HALOARCULA MARISMORTUI	422-476								
PIIS70_MYCLE	HEAT SHOCK 70 KD PROTEIN	MYCOBACTERIUM LEPRAE	461-485	501-510							
PIIS70_MYCPA	HEAT SHOCK 70 KD PROTEIN	MYCOBACTERIUM PARATUBERCULOSIS	466-481								
PHTPG_ECOLI	HEAT SHOCK PROTEIN C62.5	ESCHERICHIA COLI	231-248	482-509							
PHTRA_ECOLI	PROTEASE DO PRECURSOR	ESCHERICHIA COLI	131-146								
PHTAE_ECOLI	HTAE PROTEIN PRECURSOR	ESCHERICHIA COLI	456-486	524-536							
PHTRU_HALHA	SENSORY RHODOPSIN I TRANSDUCER	HALOBACTERIUM HALOBIUM	413-431	476-506							
PHTRI_HALSA	SENSORY RHODOPSIN I TRANSDUCER	HALOBACTERIUM SALINARIUM	114-149	413-431	479-506						
PIUTP_BACSU	HUT OPERON POSITIVE REGULATORY PROTEIN	BACILLUS SUBTILIS	5-16								
PHYTJ_LACHE	HELVETICIN J	LACTOBACILLUS HELVETICUS	174-212	206-233							
PHYCA_ECOLI	FORMATE HYDROGENLYASE SUBUNIT 1	ESCHERICHIA COLI	71-100	106-133							
PHYDO_ECOLI	TRANSCRIPTIONAL REGULATORY PROTEIN HYDG	ESCHERICHIA COLI	231-258								
PHYDO_SALTY	TRANSCRIPTIONAL REGULATORY PROTEIN HYDG	SALMONELLA TYPHIMURIUM	231-258								
PHYDH_ECOLI	SENSOR PROTEIN HYDH	ESCHERICHIA COLI	312-339	360-387							
PHYUB_PSEIN	HYDANTOIN UTILIZATION PROTEIN B	PSEUDOMONAS SP	334-361								
PHYUC_PSEIN	HYDANTOIN UTILIZATION PROTEIN	PSEUDOMONAS SP	8-40	96-123							
PHAL_PSESS	INDOLEACETATE--LYSINE LIGASE	PSEUDOMONAS SYRINGAE	133-160	297-331							
PIAP_ECOLI	ALK PHOS ISOZYME CONVERSION PROTEIN	ESCHERICHIA COLI	74-101								
PICEN_ERWAN	ICE NUCLEATION PROTEIN	ERWINIA ANANAS	326-353	422-449	534-561	614-641	662-689	721-748	758-785	834-881	950-977
			1046-1073								
PICEN_ERWHE	ICE NUCLEATION PROTEIN	ERWINIA HERBICOLA	310-337	406-433	534-561	646-673	694-721	838-865	886-913	982-1009	
PICEN_PSEFL	ICE NUCLEATION PROTEIN	PSEUDOMONAS FLUORESCENS	281-308	377-404	425-452	611-708	729-781	795-852			
PICEN_PSESY	ICE NUCLEATION PROTEIN	PSEUDOMONAS SYRINGAE	564-602	772-847	868-895	909-943					
PICEN_XANCT	ICE NUCLEATION PROTEIN	XANTHOMONAS CAMPESTRIS	496-534	535-582	1168-1204	1248-1275					
PICSB_SHOFL	INTRACELLULAR SPREAD PROTEIN	SHIGELLA FLEXNERI	41-105	418-467							
PIF1_BACST	INITIATION FACTOR IF-2	BACILLUS STEAROTHERMOPHILUS	340-367	681-708							
PIF1_BACSU	INITIATION FACTOR IF-2	BACILLUS SUBTILIS	173-208	394-421							
PIF2_ECOLI	INITIATION FACTOR IF-2	ESCHERICHIA COLI	686-724	815-862							
PIF2_ENTFC	INITIATION FACTOR IF-2	ENTEROCOCCUS FAECIUM	579-627								
PIF2_BACST	INITIATION FACTOR IF-3	BACILLUS STEAROTHERMOPHILUS	5-34								
PIF3_ECOLI	INITIATION FACTOR IF-3	ESCHERICHIA COLI	27-54	70-97							
PIF3_KLEPN	INITIATION FACTOR IF-3	KLEBSIELLA PNEUMONIAE	27-54	70-97							
PIF3_MYCTE	INITIATION FACTOR IF-3	MYCOPLASMA FERMENTANS	177-211								
PIF3_PROVU	INITIATION FACTOR IF-3	PROTEUS VULGARIS	2-29	70-97							
PIF3_SALTY	INITIATION FACTOR IF-3	SALMONELLA TYPHIMURIUM	27-54	70-97							
PIF3_SERMA	INITIATION FACTOR IF-3	SERRATIA MARCESCENS	19-46	70-97							
PIGA_NEIGO	IGA-SPECIFIC SERINE ENDOPEPTIDASE	NEISSERIA GONORRHOEAE	245-272	287-314	833-860	1024-1058	1333-1404	1485-1511			
PIGGB_STRSP	IGG BINDING PROTEIN PRECURSOR	STREPTOCOCCUS SP	46-76	120-150	193-222						
PIGGD_STRSP	IGG BINDING PROTEIN PRECURSOR	STREPTOCOCCUS SP	46-76	120-150	193-225	270-297					
PILYH_ECOLI	ACETOLACTATE SYNTHASE	ESCHERICHIA COLI	47-81	120-147							
PILYH_SALTY	ACETOLACTATE SYNTHASE	SALMONELLA TYPHIMURIUM	47-81	120-147							
PILYH_LACLA	ACETOLACTATE SYNTHASE	LACTOCOCCUS LACTIS	20-51								
PDMPB_SALTY	DMPB PROTEIN	SALMONELLA TYPHIMURIUM	185-212								
PDMP_ACICA	3NOSINE-5'-MONOPHOSPHATE DEHYDROGENASE	ACINETOBACTER CALCOACETICUS	166-191								
PDMP_BACSU	E-5'-MONOPHOSPHATE DEHYDROGENASE	BACILLUS SUBTILIS	159-186								
PINA_BACTL	DAMUNE INDUCTOR A PRECURSOR	BACILLUS THURINGIENSIS	103-130	324-351							
PINLB_LISMO	INTERNALIN A	LISTERIA MONOCYTOGENES	106-143	161-188	196-232						
PINLA_LISMO	INTERNALIN B PRECURSOR	LISTERIA MONOCYTOGENES	53-94	166-200	385-413						
PINVA_YEREN	INVASIN	YERSINIA ENTEROCOLITICA	501-531								

PCGENE	Prokaryotic Sequences								
FULLNAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PIPA7_SHIFL	60 KD ANTIGEN	SHIGELLA FLEXNERI	285-312								
PIPAA_SHIFL	70 KD ANTIGEN	SHIGELLA FLEXNERI	95-116	437-475	493-537	594-630					
PIPAB_SHIDY	62 KD MEMBRANE ANTIGEN	SHIGELLA DYSENTERIAE	28-53	71-169	480-507	522-556					
PIPAB_SHIFL	62 KD MEMBRANE ANTIGEN	SHIGELLA FLEXNERI	28-53	71-169	480-507	522-556					
PIPAC_SHIDY	43 KD MEMBRANE ANTIGEN PRECURSOR	SHIGELLA DYSENTERIAE	28-55	71-169	480-507	522-556					
PIPAC_SHIFL	43 KD MEMBRANE ANTIGEN PRECURSOR	SHIGELLA FLEXNERI	21-53	113-161	373-300	324-378					
PIPAD_SHIDY	37 KD MEMBRANE ANTIGEN IPAD	SHIGELLA FLEXNERI	28-57	113-161	373-300	324-372					
PIPAD_SHIFL	36 KD MEMBRANE ANTIGEN	SHIGELLA DYSENTERIAE	47-86	291-318							
PIPCB_SHIDY	IPCB PROTEIN	SHIGELLA FLEXNERI	47-86	259-286	291-318						
PIPCB_SHIFL	IPCB PROTEIN	SHIGELLA DYSENTERIAE	173-203								
PIPT_PSEES	ISOPENTENYL TRANSFERASE	PSEUDOMONAS SYRINGAE	173-202								
PIPYR_ECOLI	INORGANIC PYROPHOSPHATASE	ESCHERICHIA COLI	53-87	143-173							
PIRCA_VIBCH	VIRULENCE PROTEIN PRECURSOR	VIBRIO CHOLERAE	134-172								
PIRCB_VIBCH	VIRULENCE REGULATORY PROTEIN IRGB	VIBRIO CHOLERAE	212-239	336-377							
PISA_SYNP7	IRON-REGULATED PROTEIN A	SYNECHOCOCCUS SP		67-97							
PISBD_SHIDY	INSERTION ELEMENT ISO-ISID PROTEIN INSB	SHIGELLA DYSENTERIAE	167-194								
PISBN_SHIDY	INSERTION ELEMENT ISO-ISIN PROTEIN INSB	SHIGELLA DYSENTERIAE	86-115								
PISB_ECOLI	INSERTION ELEMENT IS1 PROTEIN INSB	ESCHERICHIA COLI	6-37								
PISB_SHIFL	INSERTION ELEMENT IS1 PROTEIN INSB	SHIGELLA FLEXNERI	122-149								
PISB_SHISO	INSERTION ELEMENT IS1 PROTEIN INSB	SHIGELLA SONNEI	86-113								
PISP1_BACSU	MAJOR INTRACELLULAR SERINE PROTEASE	BACILLUS SUBTILIS	115-142	197-224	253-280						
PISP_BACPO	INTRACELLULAR SERINE PROTEASE	BACILLUS POLYMYXA	109-143								
PISTA_ECOLI	ISTA PROTEIN	ESCHERICHIA COLI	183-210								
PISTA_SHISO	ISTA PROTEIN	SHIGELLA SONNEI	183-210								
PIUTA_ECOLI	FERRIC AEROBACTIN RECEPTOR PRECURSOR	ESCHERICHIA COLI	183-210								
PJAG_BACSU	JAG PROTEIN	BACILLUS SUBTILIS	186-213	323-353	339-393						
PK6P1_ECOLI	6-PHOSPHOFRUCTOKINASE ISOZYME 1	ESCHERICHIA COLI	68-95								
PKAD_BACSU	ADENYLATE KINASE	BACILLUS SUBTILIS	143-170								
PKAD_LACLA	ADENYLATE KINASE	LACTOCOCCUS LACTIS	188-215								
PKANU_BACSP	KANAMYCIN NUCLEOTIDYLTRANSFERASE	BACILLUS SP	186-213								
PKANU_STAAU	KANAMYCIN NUCLEOTIDYLTRANSFERASE	STAPHYLOCOCCUS AUREUS	69-96								
PKDGT_ECOLI	2-KETO-3-DEOXYGLUCONATE PERMEASE	ESCHERICHIA COLI	70-97								
PKDGT_ERWCH	2-KETO-3-DEOXYGLUCONATE PERMEASE	ERWINIA CHRYSANTHEMI	126-153								
PKDTA_ECOLI	2-DEOXY-D-MANNO-OCTULOSONIC-ACID TRANS	ESCHERICHIA COLI	369-396								
PKGTP_ECOLI	ALPHA-KETOGLUTARATE PERMEASE	ESCHERICHIA COLI	7-34								
PKGUA_ECOLI	GUANYLATE KINASE	ESCHERICHIA COLI	162-189								
PKHSE_BACSU	HOMOSERINE KINASE	BACILLUS SUBTILIS	49-76								
PKHSE_FREDN	HOMOSERINE KINASE	FREMYELLA DIPLOSIPHON	52-79								
PKORA_BACCI	AMINOGLYCOSIDE 3'-PHOSPHOTRANSFERASE	BACILLUS CIRCULANS	12-39								
PKORB_ECOLI	KORB TRANSCRIPTIONAL REPRESSOR PROTEIN	ESCHERICHIA COLI	228-255								
PKPY1_SPICI	PYRUVATE KINASE	SPIROPLASMA CITRI	113-140								
PKPYK_BACST	PYRUVATE KINASE	BACILLUS STEAROTHERMOPHILUS	331-374								
PLACA_STAAU	ISOMERASE LACA SUBUNIT	STAPHYLOCOCCUS AUREUS	9-64								
PLACA_STRMU	ISOMERASE LACA SUBUNIT	STREPTOCOCCUS MUTANS	28-60								
PLACC_STRMU	TAGATOSE-6-PHOSPHATE KINASE	STREPTOCOCCUS MUTANS	36-83	203-230							
PLACG_LACCA	6-PHOSPHO-BETA-GALACTOSIDASE	LACTOBACILLUS CASEI	290-317								
PLACI_ECOLI	LACTOSE OPERON REPRESSOR	ESCHERICHIA COLI	9-36								
PLACI_KLEPN	LACTOSE OPERON REPRESSOR	KLEBSIELLA PNEUMONIAE	195-229								
PLACR_STAAU	PHOSPHOTRANSFERASE REPRESSOR	STAPHYLOCOCCUS AUREUS	2-29								
PLACR_STRMU	PHOSPHOTRANSFERASE REPRESSOR	STREPTOCOCCUS MUTANS	2-32								
PLACT_LACDE	LACTOSE PERMEASE	LACTOBACILLUS DELBRUECKII	196-230								
PLAFB_YERPA	FLAGELLAR HOOK-ASSOCIATED PROTEIN 2	VIBRIO PARAHAEMOLYTICUS	62-89	388-415							
PLAMB_KLEPN	MALTOPORIN PRECURSOR	KLEBSIELLA PNEUMONIAE	337-364								
PLAN1_CLOTH	ENDO-1,3(4)-BETA-GLUCANASE PRECURSOR	CLOSTRIDIUM THERMOCELLUM	132-159								
PLAS1_PSEAE	OMPL SYNTHESIS PROTEIN LASI	PSEUDOMONAS AERUGINOSA	171-198								
PLCC1_LEUGE	PROBABLE LEUCOCIN A IMMUNITY PROTEIN	LEUCONOSTOC GELIDUM	41-71								
PLCNC_LACLA	LACTOCOCCIN A SECRETION PROTEIN LCNC	LACTOCOCCUS LACTIS	162-189	207-234	388-413						

PGENE	1971a19a4	Prokaryotic Sequences									
ELLNAME	PROTEIN	ORGANISM	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1
PLCND_LACLA	LACTOCOCCIN A SECRETION PROTEIN LCND	LACTOCOCCUS LACTIS	99-126	140-202	237-307						
PLCRD_YEREN	LOW CALCIUM RESPONSE LOCUS PROTEIN D	YERSINIA ENTEROCOLITICA	122-149	491-518							
PLCRD_YERPE	LOW CALCIUM RESPONSE LOCUS PROTEIN D	YERSINIA PESTIS	122-149	491-518							
PLCRV_YERPE	VIRULENCE-ASSOCIATED V ANTIGEN	YERSINIA PESTIS	22-49	135-184	240-267						
PLCRV_YERPS	VIRULENCE-ASSOCIATED V ANTIGEN	YERSINIA PSEUDOTUBERCULOSIS	22-49	240-267							
PLCTB_BACCA	LCTB PROTEIN	BACILLUS CALDOTENAX	18-45								
PLCTB_BACST	LCTB PROTEIN	BACILLUS STEAROTHERMOPHILUS	14-45								
PLDHD_LACPL	D-LACTATE DEHYDROGENASE	LACTOBACILLUS PLANTARUM	51-81								
PLDHP_BACPS	L-LACTATE DEHYDROGENASE P	BACILLUS PSYCHROSACCHAROLYTICUS	2-43	241-272	279-306						
PLDHX_BACPS	L-LACTATE DEHYDROGENASE X	BACILLUS PSYCHROSACCHAROLYTICUS	2-43	241-273	279-306						
PLDH_BACAC	L-LACTATE DEHYDROGENASE	BACILLUS ACIDOCALDARIUS	244-274								
PLDH_BACST	L-LACTATE DEHYDROGENASE	BACILLUS STEAROTHERMOPHILUS	241-268	279-313							
PLDH_BACSU	L-LACTATE DEHYDROGENASE	BACILLUS SUBTILIS	8-42	240-267							
PLDH_BIFLO	L-LACTATE DEHYDROGENASE	BIFIDOBACTERIUM LONGUM	22-49								
PLDH_LACPL	L-LACTATE DEHYDROGENASE	LACTOBACILLUS PLANTARUM	197-231								
PLDH_LISMO	L-LACTATE DEHYDROGENASE	LISTERIA MONOCYTOGENES	42-69								
PLDH_MYCHY	L-LACTATE DEHYDROGENASE	MYCOPLASMA HYOPNEUMONIAE	276-310								
PLDH_THEAQ	L-LACTATE DEHYDROGENASE	THERMUS AQUATICUS	3-30								
PLEF_BACAN	LETHAL FACTOR PRECURSOR	BACILLUS ANTHRACIS	165-192	304-331	480-514	548-578	619-658	737-764			
PLEPA_PSEFL	LEPA PROTEIN	PSEUDOMONAS FLUORESCENS	23-50								
PLEP_BACSU	SIGNAL PEPTIDASE I	BACILLUS SUBTILIS	3-30								
PLEUI_ECOLI	2-ISOPROPYLMALATE SYNTHASE	ESCHERICHIA COLI	437-464								
PLEUI_LACLA	2-ISOPROPYLMALATE SYNTHASE	LACTOCOCCUS LACTIS	22-49	279-484							
PLEUD_BACCO	3-ISOPROPYLMALATE DEHYDROGENASE	BACILLUS COAGULANS	331-358								
PLEUD_CLOPA	3-ISOPROPYLMALATE DEHYDROGENASE	CLOSTRIDIUM PASTEURIANUM	185-212								
PLEUD_LACLA	3-ISOPROPYLMALATE DEHYDRATASE	LACTOCOCCUS LACTIS	163-190								
PLEVR_BACSU	TRANSCRIPTIONAL REGULATORY PROTEIN LEVR	BACILLUS SUBTILIS	287-324	676-703	744-774	785-822					
PLEXA_ERWCA	LEXA REPRESSOR	ERWINIA CAROTOVORA	146-173								
PLIP1_MORSP	LIPASE 1	MORAXELLA SP	26-53								
PLIP2_MORSP	LIPASE 2	MORAXELLA SP	356-383								
PLIPB_ECOLI	LIPB PROTEIN	ESCHERICHIA COLI	66-93								
PLIP_BURCE	LIPASE PRECURSOR	BURKHOLDERIA CEPACIA	176-203								
PLIP_PSEFL	LIPASE PRECURSOR	PSEUDOMONAS FLUORESCENS	8-35								
PLIP_PSESI	LIPASE PRECURSOR	PSEUDOMONAS SP	176-203								
PLIP_STAAU	LIPASE PRECURSOR	STAPHYLOCOCCUS AUREUS	80-146	512-546							
PLIVB_SALTY	LEUCINE-SPECIFIC-BINDING PROTEIN PRECURSOR	SALMONELLA TYPHIMURIUM	193-220								
PLIVC_SALTY	LEUCINE-SPECIFIC BINDING PROTEIN PRECURSOR	SALMONELLA TYPHIMURIUM	195-222								
PLIVE_SALTY	AMINO ACID TRANSPORT PROTEIN LIVE	SALMONELLA TYPHIMURIUM	121-148								
PLIVF_ECOLI	AMINO ACID TRANSPORT PROTEIN LIVF	ESCHERICHIA COLI	23-50								
PLIVJ_CITFR	LEUCINE/VAL-BINDING PROTEIN PRECURSOR	CITROBACTER FREUNDII	195-222								
PLIVJ_ECOLI	LEUCINE/VAL-BINDING PROTEIN PRECURSOR	ESCHERICHIA COLI	195-222								
PLIVK_ECOLI	LEUCINE-SPECIFIC BINDING PROTEIN PRECURSOR	ESCHERICHIA COLI	195-222								
PLIVM_ECOLI	AMINO ACID TRANSPORT PROTEIN LIVM	ESCHERICHIA COLI	121-148								
PLKTA_ACTAC	LEUKOTOXIN	ACTINOBACILLUS ACTINOMYCETEMCOMITANS	115-147	173-213	398-443	431-488	593-620	655-711			
PLKTA_PASHA	LEUKOTOXIN	PASTEURELLA HAEMOLYTICA	53-99	179-216	345-372	409-436	435-482	496-530	545-572	811-838	851-926
PLKTB_ACTAC	LEUKOTOXIN SECRETION PROTEIN	ACTINOBACILLUS ACTINOMYCETEMCOMITANS	487-514								
PLKTB_PASHA	LEUKOTOXIN SECRETION PROTEIN	PASTEURELLA HAEMOLYTICA	42-69	78-105	488-515						
PLKTC_ACTAC	LKTC PROTEIN	ACTINOBACILLUS ACTINOMYCETEMCOMITANS	58-85	116-150							
PLKTC_PASHA	LKTC PROTEIN	PASTEURELLA HAEMOLYTICA	123-157								
PLKTD_ACTAC	LKTD PROTEIN	ACTINOBACILLUS ACTINOMYCETEMCOMITANS	116-164	205-242	278-305	364-391					
PLKTD_PASHA	LKTD PROTEIN	PASTEURELLA HAEMOLYTICA	184-289								
PLON_ECOLI	ATP-DEPENDENT PROTEASE LA	ESCHERICHIA COLI	121-148								
PLPXA_RHIJU	UDP-N-ACETYLGLUCOSAMINE ACYLTRANSFERASE	RICKETTSIA RICKETTSII	229-256								
PLSPA_ECOLI	LIPOPROTEIN SIGNAL PEPTIDASE	ESCHERICHIA COLI	10-37								
PLSPA_STAAU	LIPOPROTEIN SIGNAL PEPTIDASE	STAPHYLOCOCCUS AUREUS	134-161								
PLTKF_STAAU	LETHAL FACTOR F SUBUNIT PRECURSOR	STAPHYLOCOCCUS AUREUS	161-195								
PLTKS_STAAU	LETHAL FACTOR S SUBUNIT PRECURSOR	STAPHYLOCOCCUS AUREUS	157-207								

PCGENE	10721714	Prokaryotic Sequences								
ENTRY NAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PLUXA_KRYAL	ALKANAL MONOOXYGENASE ALPHA CHAIN	KRYPTOPHANARON ALFREDI	190-217							
PLUXB_PHOPO	ALKANAL MONOOXYGENASE BETA CHAIN	PHOTOBACTERIUM PHOSPHOREUM	188-217	257-291						
PLUXB_VIBHA	ALKANAL MONOOXYGENASE BETA CHAIN	VIBRIO HARVEYI	373-400							
PLUXC_PHOLE	ACYL-COA REDUCTASE	PHOTOBACTERIUM LEIOGNATHI	44-81							
PLUXC_PHOPO	ACYL-COA REDUCTASE	PHOTOBACTERIUM PHOSPHOREUM	54-91							
PLUXC_VIBFI	ACYL-COA REDUCTASE	VIBRIO FISCHERI	16-45							
PLUXC_XENLU	ACYL-COA REDUCTASE	XENORHABDUS LUMINESCENS	39-69							
PLUXD_PHOLE	ACYL TRANSFERASE	PHOTOBACTERIUM LEIOGNATHI	89-119	218-245						
PLUXE_VIBHA	LUCIFERIN-COMPONENT LIGASE	VIBRIO HARVEYI	30-57							
PLUXF_PHOLE	NON-FLUORESCENT FLAVOPROTEIN	PHOTOBACTERIUM LEIOGNATHI	145-172							
PLUXG_PHOPO	NON-FLUORESCENT FLAVOPROTEIN	PHOTOBACTERIUM PHOSPHOREUM	33-61	99-126						
PLUXO_VIBFI	PROBABLE FLAVIN REDUCTASE	VIBRIO FISCHERI	139-168							
PLUXH_VIBHA	LUXH PROTEIN	VIBRIO HARVEYI	96-123							
PLUXI_VIBFI	OHHL SYNTHESIS PROTEIN LUXI	VIBRIO FISCHERI	30-58							
PLUXI_VIBFI	OHHL SYNTHESIS PROTEIN LUXI	VIBRIO FISCHERI	30-57							
PLUXP_PHOPO	LUMAZINE PROTEIN	PHOTOBACTERIUM PHOSPHORIUM	51-83	162-189						
PLUXR_VIBHA	LUXR REGULATORY PROTEIN	VIBRIO HARVEYI	61-88							
PLXB1_PHOLE	ALKANAL MONOOXYGENASE BETA CHAIN	PHOTOBACTERIUM LEIOGNATHI	268-295							
PLXB2_PHOLE	ALKANAL MONOOXYGENASE BETA CHAIN	PHOTOBACTERIUM LEIOGNATHI	228-255							
PLYB_BACSU	B-ENZYME	BACILLUS SUBTILIS	87-114							
PLYC_CLOAB	AUTOLYTIC LYSOZYME	CLOSTRIDIUM ACETOBUTYLICUM	91-118							
PLYSP_ECOLI	LYSINE-SPECIFIC PERMEASE	ESCHERICHIA COLI	142-176							
PLYTB_BACSU	AMIDASE ENHANCER PRECURSOR	BACILLUS SUBTILIS	51-82	150-177	467-513	555-585				
PLYTB_ECOLI	LYTB PROTEIN	ESCHERICHIA COLI	210-239							
PLYTC_BACSU	AMIDASE PRECURSOR	BACILLUS SUBTILIS	179-213	225-252						
PLYTR_BACSU	MEMBRANE-BOUND PROTEIN LYTR	BACILLUS SUBTILIS	13-64	218-303						
PM12_STRPY	M PROTEIN, SEROTYPE 12 PRECURSOR	STREPTOCOCCUS PYOGENES	46-92	114-156	191-300	305-342	383-417	436-494		
PM24_STRPY	M PROTEIN, SEROTYPE 24 PRECURSOR	STREPTOCOCCUS PYOGENES	12-46	89-128	175-202	245-272	280-313	399-457		
PM49_STRPY	M PROTEIN, SEROTYPE 49 PRECURSOR	STREPTOCOCCUS PYOGENES	12-174	209-237						
PM5_STRPY	M PROTEIN, SEROTYPE 5 PRECURSOR	STREPTOCOCCUS PYOGENES	5-39	58-283	306-333	352-410				
PM6_STRPY	M PROTEIN, SEROTYPE 6 PRECURSOR	STREPTOCOCCUS PYOGENES	12-39	76-282	296-324	343-401				
PMALE_ECOLI	MALTOSE-BINDING PROTEIN PRECURSOR	ESCHERICHIA COLI	20-47							
PMALE_ENTAE	MALTOSE-BINDING PROTEIN PRECURSOR	ENTEROBACTER AEROGENES	20-47							
PMALK_ENTAE	INNER MEMBRANE PROTEIN MALK	ENTEROBACTER AEROGENES	3-30							
PMALT_ECOLI	MALT REGULATORY PROTEIN	ESCHERICHIA COLI	853-879							
PMALX_STRPN	MALX PROTEIN PRECURSOR	STREPTOCOCCUS PNEUMONIAE	40-67	180-207						
PMANB_BACSU	1,4-BETA-MANNOSIDASE A AND B PREC.	BACILLUS SP	410-441							
PMANM_CALSA	B-MANNANASE/ENDOGLUCANASE A PREC.	CALDOCELLUM SACCHAROLYTICUM	398-421	592-626	1222-1255	1296-1323				
PMAOX_BACST	MALATE OXIDOREDUCTASE	BACILLUS STEAROTHERMOPHILUS	246-273							
PMARA_ECOLI	ANTIBIOTIC RESISTANCE PROTEIN MARA.	ESCHERICHIA COLI	93-122							
PMBEB_ECOLI	MOBILIZATION PROTEIN MOBB	ESCHERICHIA COLI	38-65	100-134						
PMINH1_WOLSU	QUINONE-REACTIVE NITRATE REDUCTASE	WOLINELLA SUCCINOGENES	440-471							
PMOBB_ECOLI	MOBB PROTEIN	ESCHERICHIA COLI	47-74	122-163						
PMOBD_ECOLI	MOBD PROTEIN	ESCHERICHIA COLI	173-206	226-255	306-345					
PMOP1_ECOLI	METHYL-ACCEPTING CHEMOTAXIS PROTEIN I	ESCHERICHIA COLI	273-299							
PMOP1_ECOLI	METHYL-ACCEPTING CHEMOTAXIS PROTEIN II	ESCHERICHIA COLI	238-306							
PMOP2_SALTY	METHYL-ACCEPTING CHEMOTAXIS PROTEIN II	SALMONELLA TYPHIMURIUM	238-306							
PMOP3_ECOLI	METHYL-ACCEPTING CHEMOTAXIS PROTEIN III	ESCHERICHIA COLI	288-315							
PMOP4_ECOLI	METHYL-ACCEPTING CHEMOTAXIS PROTEIN IV	ESCHERICHIA COLI	111-145	184-191	277-304					
PMOPA_CAUCR	CHEMORECEPTOR MCPA	CAULOBACTER CRESCENTUS	260-287	368-403	516-543					
PMOPC_SALTY	CHEMOTAXIS CITRATE TRANSDUCER	SALMONELLA TYPHIMURIUM	314-348							
PMOPD_ENTAE	CHEMOTAXIS ASPARTATE TRANSDUCER	ENTEROBACTER AEROGENES	275-302							
PMOPS_ENTAE	CHEMOTAXIS SERINE TRANSDUCER	ENTEROBACTER AEROGENES	41-68	158-208	317-351	488-522				
PMOTA_ECOLI	SPECIFIC RESTRUCTION ENZYME A	ESCHERICHIA COLI	37-71							
PMOTA_METBA	METHYL-COENZYME M REDUCTASE	METHANOSARCINA BARKERI	375-403							
PMOTA_METVA	METHYL-COENZYME M REDUCTASE	METHANOCOCCUS VANNIELII	335-362							
PMOTA_METVO	METHYL-COENZYME M REDUCTASE	METHANOCOCCUS VOLTAE	336-363							

PEGENE	10711761	Prokaryotic Sequences									
FILE_NAME	PROTEIN	ORGANISM	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA2
PMCAB_METFE	METHYL-COENZYME M REDUCTASE	METHANOTHERMUS FERVIDUS	267-294								
PMCAB_METVO	METHYL-COENZYME M REDUCTASE	METHANOCOCCUS VOLTAE	247-274								
PMCRC_ECOLI	MCRC PROTEIN	ESCHERICHIA COLI	111-143								
PMCRD_METVO	REDUCTASE OPERON PROTEIN D	METHANOCOCCUS VOLTAE	34-91								
PMDH_ECOLI	MALATE DEHYDROGENASE	ESCHERICHIA COLI	127-154								
PMDH_METFE	MALATE DEHYDROGENASE	METHANOTHERMUS FERVIDUS	54-88								
PMDH_SALTY	MALATE DEHYDROGENASE	SALMONELLA TYPHIMURIUM	127-154								
PMDL_ECOLI	MDL PROTEIN	ESCHERICHIA COLI	466-491	684-711	992-1019						
PMDOH_ECOLI	BIOSYNTHESIS PROTEIN MDOH	ESCHERICHIA COLI	119-132								
PMECI_STAEP	METHICILLIN RESISTANCE REG PROTEIN MECI	STAPHYLOCOCCUS EPIDERMIDIS & AUREUS	88-122								
PMECR_STAEP	METHICILLIN RESISTANCE MECR1 PROTEIN	STAPHYLOCOCCUS EPIDERMIDIS & AUREUS	439-495	546-573							
PMEMB_METCA	METHANE MONOOXYGENASE COMPONENT A	METHYLOCOCCUS CAPSULATUS	214-268								
PMEMB_METTR	METHANE MONOOXYGENASE COMPONENT A	METHYLOSINUS TRICHOSPORIUM	321-348								
PMEND_ECOLI	SHIKIC SYNTHASE	ESCHERICHIA COLI	333-367								
PMER4_STRLI	PROBABLE HG TRANSPORT PROTEIN	STREPTOMYCES LIVIDANS	159-186								
PMERA_BACSR	MERCURIC REDUCTASE	BACILLUS SP	146-180								
PMERA_STAAU	MERCURIC REDUCTASE	STAPHYLOCOCCUS AUREUS	292-347	352-386							
PMERA_STAAU	MERCURIC RESISTANCE OPERON REG PROTEIN	STAPHYLOCOCCUS AUREUS	86-113								
PMETB_ECOLI	CYSTATHIONINE GAMMA-SYNTHASE	ESCHERICHIA COLI	336-383								
PMETC_ECOLI	CYSTATHIONINE BETA-LYASE	ESCHERICHIA COLI	363-390								
PMETC_SALTY	CYSTATHIONINE BETA-LYASE	SALMONELLA TYPHIMURIUM	2-29								
PMETE_ECOLI	METHIONINE SYNTHASE	ESCHERICHIA COLI	448-482								
PMETH_ECOLI	METHIONINE SYNTHASE	ESCHERICHIA COLI	371-398	642-676							
PMFD_ECOLI	TRANSCRIPTION-REPAIR COUPLING FACTOR	ESCHERICHIA COLI	185-212								
PMGLA_ECOLI	GALACTOSIDE-BINDING PROTEIN	ESCHERICHIA COLI	62-89	312-330							
PMINC_BACSU	SEPTUM SITE-DETERMINING PROTEIN MINC	BACILLUS SUBTILIS	65-122								
PMIOC_ECOLI	MIOC PROTEIN	ESCHERICHIA COLI	102-129								
PMIP_CHLTR	27 KD MEMBRANE PROTEIN PRECURSOR	CHLAMYDIA TRACHOMATIS	41-75								
PMIP_LEGMI	OUTER MEMBRANE PROTEIN MIP PRECURSOR	LEGIONELLA MICDADEI	106-133								
PMLS1_ENTFA	RNNA ADENINE N-6-METHYLTRANSFERASE	ENTEROCOCCUS FAECALIS	4-31	120-154							
PMLS1_STAAU	RNNA ADENINE N-6-METHYLTRANSFERASE	STAPHYLOCOCCUS AUREUS	9-47								
PMLS2_ENTFA	RNNA ADENINE N-6-METHYLTRANSFERASE	ENTEROCOCCUS FAECALIS	4-31	120-154							
PMLSB_BACFR	RNNA ADENINE N-6-METHYLTRANSFERASE	BACTEROIDES FRAGILIS	16-43								
PMLSB_ECOLI	RNNA ADENINE N-6-METHYLTRANSFERASE	ESCHERICHIA COLI	4-31	120-154							
PMLSB_STRPN	RNNA ADENINE N-6-METHYLTRANSFERASE	STREPTOCOCCUS PNEUMONIAE	4-31	120-154							
PMLSB_STRSA	RNNA ADENINE N-6-METHYLTRANSFERASE	STREPTOCOCCUS SANGUIS	4-31	120-154							
PMLSC_BACFR	RNNA ADENINE N-6-METHYLTRANSFERASE	BACTEROIDES FRAGILIS	16-43								
PMMOM_METC	METHANE MONOOXYGENASE REG PROTEIN B	METHYLOCOCCUS CAPSULATUS	34-64								
PMOAB_ECOLI	MOLYBD COFAC BIOSYN PROTEIN B	ESCHERICHIA COLI	48-76								
PMOBA_THIFE	MOBA PROTEIN	THIOBACILLUS FERROOXIDANS	94-121	251-278							
PMOLC_THIFE	MOLC PROTEIN	THIOBACILLUS FERROOXIDANS	20-47								
PMOBD_THIFE	MOBD PROTEIN	THIOBACILLUS FERROOXIDANS	95-122								
PMOBS_ECOLI	MOB PROTEIN	ESCHERICHIA COLI	45-72								
PMOEA_ECOLI	MOLYBDOPTERIN BIOSYNTHESIS MOEA PROTEIN	ESCHERICHIA COLI	243-270								
PMOPT_CLOPA	MOLYBDENUM-PTERIN BINDING PROTEIN T	CLOSTRIDIUM PASTEURIANUM	26-53								
PMOP2_CLOPA	MOLYBDENUM-PTERIN BINDING PROTEIN II	CLOSTRIDIUM PASTEURIANUM	26-64								
PMOXY_PAADE	METHANOL UTIL CONT PROTEIN MOXY	PARACOCCUS DENITRIFICANS	200-234	307-334							
PMPEU_SYNPY	BILIN BIOSYNTHESIS PROTEIN MPEU	SYNECHOCOCCUS SP	2-36	80-107	194-225						
PMPEV_SYNPY	BILIN BIOSYNTHESIS PROTEIN MPEV	SYNECHOCOCCUS SP	2-31	175-216							
PMPRA_ECOLI	MPRA PROTEIN	ESCHERICHIA COLI	136-163								
PMRAY_BACSU	PENTAPEPTIDE-TRANSFERASE	BACILLUS SUBTILIS	106-133	247-281							
PMREB_BACCE	ROD SHAPE-DETERMINING PROTEIN MREB	BACILLUS CEREUS	186-213								
PMREC_BACSU	ROD SHAPE-DETERMINING PROTEIN MREC	BACILLUS SUBTILIS	63-112								
PMRKB_KLEPN	CHAPERONE PROTEIN MRKB PRECURSOR	KLEBSIELLA PNEUMONIAE	198-232								
PMRKC_KLEPN	MRKC PROTEIN PRECURSOR	KLEBSIELLA PNEUMONIAE	53-82	433-489	592-622						

PCGENE	10717824	Prokaryotic Sequences									
FILENAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PMKD_KLEPN	FIMBRIA ADHESIN PROTEIN PRECURSOR	KLEBSIELLA PNEUMONIAE	222-268								
PMKE_KLEPN	MOKE PROTEIN	KLEBSIELLA PNEUMONIAE	193-220								
PMRA4_STRPY	FIBRINOGEN-/IG-BINDING PROTEIN PRECURSOR	STREPTOCOCCUS PYOGENES	7-46	99-110							
PMRD_STRSU	MURAMIDASE-RELEASED PROTEIN PRECURSOR	STREPTOCOCCUS SUIS	75-102	130-177	261-291	421-448	507-534	588-622	773-800	1038-1065	
PMSBA_ECOLI	PROB ATP-BINDING TRANSPORT PROTEIN MSBA	ESCHERICHIA COLI	116-150	412-449							
PMSLA_STAEP	ERYTHROMYCIN RESISTANCE PROTEIN	STAPHYLOCOCCUS EPIDERMIDIS	174-223	323-350							
PMSYB_ECOLI	ACIDIC PROTEIN MSYB	ESCHERICHIA COLI	73-100								
PMT37_ECOLI	MODIFICATION METHYLASE ECO37I	ESCHERICHIA COLI	256-284	474-544							
PMTA1_ACICA	MODIFICATION METHYLASE ACCI	ACINETOBACTER CALCOACETICUS	503-540								
PMTAB_SYNP2	MODIFICATION METHYLASE AQUI BETA SUBUNIT	SYNECHOCOCCUS SP	19-46								
PMTB1_BREEP	MODIFICATION METHYLASE BEPI	BREVIBACTERIUM EPIDERMIDIS	166-200	309-336							
PMTB1_HERAU	MODIFICATION METHYLASE HGIBI	HERPETOSIPHON AURANTIACUS	281-308								
PMTB2_BACAM	MODIFICATION METHYLASE BAMHII	BACILLUS AMYLOLIQUEFACIENS	33-62								
PMTB3_BACAR	MODIFICATION METHYLASE BANIII	BACILLUS ANEURINOLYTICUS	184-211								
PMTBA_BACAR	MODIFICATION METHYLASE BANI	BACILLUS ANEURINOLYTICUS	121-148	383-409							
PMTBB_BACSU	MODIFICATION METHYLASE BSUBI	BACILLUS SUBTILIS	231-258	467-496							
PMTBF_BACSU	MODIFICATION METHYLASE BSUFI	BACILLUS SUBTILIS	206-235								
PMTC1_CITFR	MODIFICATION METHYLASE CFRBI	CITROBACTER FREUNDII	7-36	135-82	233-279						
PMTC1_HERAU	MODIFICATION METHYLASE HGICI	HERPETOSIPHON AURANTIACUS	120-147								
PMTC2_HERAU	MODIFICATION METHYLASE HGICII	HERPETOSIPHON AURANTIACUS	281-311								
PMTE1_ECOLI	MODIFICATION METHYLASE ECONI	ESCHERICHIA COLI	76-110	145-172							
PMTE1_HERAU	MODIFICATION METHYLASE HGIEI	HERPETOSIPHON AURANTIACUS	281-308								
PMTE2_ECOLI	MODIFICATION METHYLASE ECORII	ESCHERICHIA COLI	4-61								
PMTE5_ECOLI	MODIFICATION METHYLASE ECO RV	ESCHERICHIA COLI	73-100								
PMTEC_ENTCL	MODIFICATION METHYLASE ECAI	ENTEROBACTER CLOACAE	418-445								
PMTF1_FLAOK	MODIFICATION METHYLASE FOKI	FLAVOBACTERIUM OKEANOKOITES	184-211	279-306	337-366	398-425	555-646				
PMTF1_FUSNU	MODIFICATION METHYLASE FNUDI	FUSOBACTERIUM NUCLEATUM	22-49								
PMTG2_HAEGA	MODIFICATION METHYLASE HGAI-2	HAEMOPHILUS GALLINARUM	135-165								
PMTH2_HAEIN	MODIFICATION METHYLASE HINCII	HAEMOPHILUS INFLUENZAE	181-208	299-326							
PMTH2_METTF	MODIFICATION METHYLASE MTHZI	METHANOBACTERIUM THERMOFORMICICUM	184-215	296-333							
PMTK1_KLEPN	MODIFICATION METHYLASE KPNI	KLEBSIELLA PNEUMONIAE	270-297								
PMTLD_STRMU	MANNITOL-1-PHOSPHATE 5-DEHYDROGENASE	STREPTOCOCCUS MUTANS	39-66	224-251	349-376						
PMTM1_MORSP	MODIFICATION METHYLASE MSPI	MORAXELLA SP	1-39	48-104							
PMTN9_NEILA	MODIFICATION METHYLASE NLAIII	NEISSERIA LACTAMICA	124-158	183-210							
PMTP2_PROVU	MODIFICATION METHYLASE PVU II	PROTEUS VULGARIS	308-333								
PMTPG_SULAC	MEMBRANE-ASSOCIATED ATPASE	SULFOLOBUS ACIDOCALDARIUS	9-47								
PMTP5_PROST	MODIFICATION METHYLASE PSTI	PROVIDENCIA STUARTII	226-264								
PMTR_ECOLI	TRYPTOPHAN-SPECIFIC TRANSPORT PROTEIN	ESCHERICHIA COLI	86-107								
PMTS1_STRSA	MODIFICATION METHYLASE STSI	STREPTOCOCCUS SANGUIS	116-133	414-461	600-643						
PMTS3_SHISO	MODIFICATION METHYLASE SSOII	SHIGELLA SONNEI	81-108								
PMTS9_STAAU	MODIFICATION METHYLASE SAU96I	STAPHYLOCOCCUS AUREUS	233-274								
PMTSA_LACLC	MODIFICATION METHYLASE SCRFI-A	LACTOCOCCUS LACTIS	88-115	187-214							
PMTSB_LACLC	MODIFICATION METHYLASE SCRFI-B	LACTOCOCCUS LACTIS	27-61								
PMTSI_SPISQ	CPG DNA METHYLASE	SPIROPLASMA SP	188-230	236-290							
PMTSM_SERMA	MODIFICATION METHYLASE SMAI	SERRATIA MARCESCENS	61-88								
PMTTA_THETH	MODIFICATION METHYLASE TTHHBII	THERMUS AQUATICUS	126-157								
PMTV1_VIBS3	MODIFICATION METHYLASE VSPI	VIBRIO SP	23-66								
PMUKD_ECOLI	MUKB PROTEIN	ESCHERICHIA COLI	326-381	1014-1048	1216-1252						
PMUL1_ERWAM	MAJOR OUTER MEMBRANE LIPOPROTEIN PREC	ERWINIA AMYLOVORA	24-54								
PMUL1_MORMO	MAJOR OUTER MEMBRANE LIPOPROTEIN PREC	MORGANELA MORGANII	23-54								
PMUL1_PROMI	MAJOR OUTER MEMBRANE LIPOPROTEIN PREC	PROTEUS MIRABILIS	23-63								
PMUR0_BACSU	UDP-LIGASE	BACILLUS SUBTILIS	101-132	299-326							
PMURE_ECOLI	LIGASE	ESCHERICHIA COLI	107-134								
PMURF_ECOLI	UDP-MURNAC-PENTAPEPTIDE SYNTHETASE	ESCHERICHIA COLI	407-437								
PMURZ_ECOLI	ENOYLPYRUVATE TRANSFERASE	ESCHERICHIA COLI	392-419								
PMURZ_ENTCL	ENOYLPYRUVATE TRANSFERASE	ENTEROBACTER CLOACAE	392-419								
PMUTA_STRCM	METHYLMALONYL-COA MUTASE BETA-SUBUNIT	STREPTOMYCES CINNAMONENSIS	31-58								

PCGENE	10711764	Prokaryotic Sequences	AREA1	AREA1	AREA1	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
ELK_NANE	1.8.1.11	DAGAUNI									
PMUTB_PROFR	METHYLMALONYL-COA MUTASE ALPHA-SUBUNIT	PROPIONIBACTERIUM FREUDENREICHII	149-576								
PMUTB_SALTY	4Q-SPECIFIC ADENINE GLYCOSYLASE	SALMONELLA TYPHIMURIUM	273-300								
PMUTB_STRCM	METHYLMALONYL-COA MUTASE ALPHA-SUBUNIT	STREPTOMYCES CINNAMONENSIS	481-508								
PMUTL_ECOLI	DNA MISMATCH REPAIR PROTEIN MUTL	ESCHERICHIA COLI	80-114								
PMUTL_SALTY	DNA MISMATCH REPAIR PROTEIN MUTL	SALMONELLA TYPHIMURIUM	80-114								
PMUTL_VIBCH	PROTEIN MUTL	VIBRIO CHOLERAE	134-169								
PMUTS_ECOLI	DNA MISMATCH REPAIR PROTEIN MUTS	ESCHERICHIA COLI	119-153								
PMUTT_STRAM	MUTT-LIKE PROTEIN	STREPTOMYCES AMBOFACIENS	60-87								
PMYAA_PSEMV	COENZYME A REDUCTASE	PSEUDOMONAS MEVALONII	341-368								
PMX_STRPY	M-RELATED PROTEIN PRECURSOR	STREPTOCOCCUS PYOGENES	3-129	148-182	190-217	240-301					
PMYCO_STRCI	MYCOLYSIN PRECURSOR	STREPTOMYCES CACAOI	108-152								
PMYFC_YEREN	MYFC PROTEIN PRECURSOR	YERSINIA ENTEROCOLITICA	210-237								
PNADC_SALTY	NICOTINATE-NUCLEOTIDE PYROPHOSPHORYLASE	SALMONELLA TYPHIMURIUM	123-154	335-389							
PNADR_SALTY	TRANSCRIPTIONAL REGULATOR NADR	SALMONELLA TYPHIMURIUM	233-260								
PNAGD_ECOLI	NAGD PROTEIN	ESCHERICHIA COLI	75-102								
PNAGH_CLOPE	HYALURONOGLUCOSAMINIDASE	CLOSTRIDIUM PERFRINGENS	68-75	990-1017							
PNAGR_ECOLI	NAGR PROTEIN	ESCHERICHIA COLI	119-153								
PNANH_CLOSO	SIALIDASE PRECURSOR	CLOSTRIDIUM SORDELLII	11-42	389-430	912-948						
PNANH_CLOSO	SIALIDASE PRECURSOR	CLOSTRIDIUM SORDELLII	177-204								
PNANM_SALTY	SIALIDASE	SALMONELLA TYPHIMURIUM	290-317								
PNAPA_ENTHR	NA(+)/H(+) ANTIPORTER	ENTEROCOCCUS HIRAE	116-150								
PNARG_ECOLI	RESPIRATORY NITRATE REDUCTASE ALPHA CHAIN	ESCHERICHIA COLI	386-420								
PNARL_ECOLI	REGULATOR PROTEIN NARL	ESCHERICHIA COLI	76-103								
PNARP_ECOLI	REGULATOR PROTEIN NARP	ESCHERICHIA COLI	155-189								
PNARX_ECOLI	NITRATE/NITRITE SENSOR PROTEIN NARX	ESCHERICHIA COLI	220-247	358-385	431-458	505-538					
PNDVA_RHIME	BETA-(1-->2)GLUCAN EXPORT PROTEIN	RHIZOBIUM MELILOTI	212-239								
PNEOR_STACY	NEOMYCIN RESISTANCE PROTEIN	STREPTOMYCES CYANOGENUS	348-375								
PNEUA_ECOLI	ACYLNEURAMINATE CYTIDYLYLTRANSFERASE	ESCHERICHIA COLI	218-232	268-298							
PNFRA_ECOLI	NA ADSORPTION PROTEIN A PRECURSOR	ESCHERICHIA COLI	490-517								
PNFRB_ECOLI	NA ADSORPTION PROTEIN B	ESCHERICHIA COLI	2-43	186-220	511-538						
PNFRC_ECOLI	NA ADSORPTION PROTEIN C	ESCHERICHIA COLI	315-342								
PNFSI_ENTCL	NADPH NITROREDUCTASE	ENTEROBACTER CLOACAE	9-36								
PNHAA_ECOLI	NA(+)/H(+) ANTIPORTER 1	ESCHERICHIA COLI	206-233								
PNHAB_ECOLI	NA(+)/H(+) ANTIPORTER 2	ESCHERICHIA COLI	271-303								
PNHAB_PSECL	NITRILE HYDRATASE SUBUNIT BETA	PSEUDOMONAS CHLORORAPHIS	31-101								
PNHBI_RHOSH	NITRILE HYDRATASE SUBUNIT BETA	RHODOCOCCUS RHODOCHROUS	61-93								
PNIFA_AZOBR	NIF-SPECIFIC REGULATORY PROTEIN	AZOSPIRILLUM BRASILENSE	7-44								
PNIFA_BRAJA	NIF-SPECIFIC REGULATORY PROTEIN	BRADYRHIZOBIUM JAPONICUM	232-259								
PNIFA_HERSS	NIF-SPECIFIC REGULATORY PROTEIN	HERBASPIRILLUM SEROPEDICAE	9-51	102-203	227-254						
PNIFA_RHILE	NIF-SPECIFIC REGULATORY PROTEIN	RHIZOBIUM LEGUMINOSARUM	100-127								
PNIFA_RHIME	NIF-SPECIFIC REGULATORY PROTEIN	RHIZOBIUM MELILOTI	171-198								
PNIFA_RHOCA	NIF-SPECIFIC REGULATORY PROTEIN	RHODOBACTER CAPSULATUS	260-287								
PNIFB_AZOVI	NIFB PROTEIN	AZOTOBACTER VINELANDII	342-369								
PNIFB_KLEPN	NIFB PROTEIN	KLEBSIELLA PNEUMONIAE	154-181								
PNIFD_ANASP	NITROG MOLYBD-IRON PROTEIN	ANABAENA SP	374-401								
PNIFD_AZOBR	NITROG MOLYBD-IRON PROTEIN	AZOSPIRILLUM BRASILENSE	377-404								
PNIFD_PLEBO	NITROG MOLYBD-IRON PROTEIN	PLECTONEMA BORYANUM	387-414								
PNIFD_THIFE	NITROG MOLYBD-IRON PROTEIN	THIOBACILLUS FERROOXIDANS	383-410								
PNIFE_CLOPA	BIOSYNTHESIS PROTEIN NIFE	CLOSTRIDIUM PASTEURIANUM	339-386								
PNIFH_FRAAR	NITROGENASE IRON PROTEIN	FRANKIA SP	56-83								
PNIFH_PLEBO	NITROGENASE IRON PROTEIN	PLECTONEMA BORYANUM	267-294								
PNIFK_AZOBR	NITROG MOLYBD-IRON PROTEIN	AZOSPIRILLUM BRASILENSE	430-457								
PNIFK_BRAJA	NITROG MOLYBD-IRON PROTEIN	BRADYRHIZOBIUM JAPONICUM	483-510								
PNIFK_BRASP	NITROG MOLYBD-IRON PROTEIN	BRADYRHIZOBIUM SP	478-505								
PNIFK_CLOPA	NITROG MOLYBD-IRON PROTEIN	CLOSTRIDIUM PASTEURIANUM	227-254								
PNIFK_THIFE	NITROG MOLYBD-IRON PROTEIN	THIOBACILLUS FERROOXIDANS	479-506								
PNIFM_AZOCH	NIFM PROTEIN	AZOTOBACTER CHROOCOCCUM MCD 1	265-292								

PEGENE	107:1178:4	Prokaryotic Sequences								
FILE NAME	PROTEIN	ORGANISM	AREA1	AREA1	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PNIFN_BRAJA	BIOSYNTHESIS PROTEIN NIFN	BRADYRHIZOBIUM JAPONICUM	339-366							
PNIFS_ANASP	NIFS PROTEIN	ANABAENA SP	113-139							
PNIFS_LACDE	NIFS PROTEIN HOMOLOG	LACTOBACILLUS DELBRUECKII	59-86							
PNIFT_AZOVI	NIFT PROTEIN	AZOTOBACTER VINELANDII	6-33							
PNIFU_ANASL	NIFU PROTEIN	ANABAENA SP	7-49							
PNIFU_ANASP	NIFU PROTEIN	ANABAENA SP	148-178							
PNIFU_KLEPN	NIFU PROTEIN	KLEBSIELLA PNEUMONIAE	66-93							
PNIKA_ECOLI	NICKEL TRANSPORT PROTEIN NIKA PRECURSOR	ESCHERICHIA COLI	122-149	282-309	456-483					
PNIKE_ECOLI	NICKEL TRANSPORT PROTEIN NIKE	ESCHERICHIA COLI	177-204							
PNIRB_ECOLI	NITRITE REDUCTASE	ESCHERICHIA COLI	54-81	345-372						
PNIRC_ECOLI	NIRC PROTEIN	ESCHERICHIA COLI	212-239							
PNIRS_PSEST	PSEUDOMONAS CYTOCHROME OXIDASE PRECURSOR	PSEUDOMONAS STUTZERI	303-333							
PNISB_LACLA	11.7 KD MEMBRANE ASSOCIATED PROTEIN	LACTOCOCCUS LACTIS	202-229	287-313	661-697	886-920				
PNISC_LACLA	NISIN BIOSYNTHESIS PROTEIN NISC	LACTOCOCCUS LACTIS	52-92	140-188						
PNIST_LACLA	NISIN TRANSPORT PROTEIN NIST	LACTOCOCCUS LACTIS	223-257	278-305	426-470					
PNIVA_CLOPA	HOMOCITRATE SYNTHASE, ALPHA SUBUNIT	CLOSTRIDIUM PASTEURIANUM	100-127	234-268						
PNIVO_CLOPA	HOMOCITRATE SYNTHASE, OMEGA SUBUNIT	CLOSTRIDIUM PASTEURIANUM	63-94	103-132	213-240	283-310				
PNMPC_ECOLI	PORIN PROTEIN NMPC PRECURSOR	ESCHERICHIA COLI	22-49	69-96	335-362					
PNODC_BRASP	NODULATION PROTEIN C	BRADYRHIZOBIUM SP	3-30							
PNODC_RHILO	NODULATION PROTEIN C	RHIZOBIUM LOTI	286-313							
PNODC_RHILT	NODULATION PROTEIN C	RHIZOBIUM LEGUMINOSARUM	14-41							
PNODF_RHILV	NODULATION PROTEIN F	RHIZOBIUM LEGUMINOSARUM	31-58							
PNODF_RHIME	NODULATION PROTEIN F	RHIZOBIUM MELILOTI	39-66							
PNODG_RHIME	NODULATION PROTEIN G	RHIZOBIUM MELILOTI	8-35							
PNODG_RHIMS	NODULATION PROTEIN G	RHIZOBIUM MELILOTI	8-35							
PNODL_RHILV	NODULATION PROTEIN L	RHIZOBIUM LEGUMINOSARUM	26-53							
PNODQ_AZOBR	NODULATION PROTEIN Q	AZOSPIRILLUM BRASILENSE	60-87							
PNODT_RHILT	NODULATION PROTEIN T	RHIZOBIUM LEGUMINOSARUM	104-134	355-382	420-454					
PNODT_RHILV	NODULATION PROTEIN T	RHIZOBIUM LEGUMINOSARUM	364-391	416-443						
PNODT_RHIFR	NODULATION PROTEIN T	RHIZOBIUM FREDII	506-536							
PNODV_BRAJA	NODULATION PROTEIN V	BRADYRHIZOBIUM JAPONICUM	378-419	739-766						
PNODX_RHILV	NODULATION PROTEIN X	RHIZOBIUM LEGUMINOSARUM	232-259							
PNOLB_RHIFR	NODULATION PROTEIN NOLB	RHIZOBIUM FREDII	133-160							
PNOLR_RHIME	NODULATION PROTEIN NOLR	RHIZOBIUM MELILOTI	88-115							
PNOSD_PSEST	NOSD PROTEIN PRECURSOR	PSEUDOMONAS STUTZERI	319-346							
PNOSR_PSEST	REGULATORY PROTEIN NOSR	PSEUDOMONAS STUTZERI	127-154							
PNORZ_PSEAE	NITROUS-OXIDE REDUCTASE PRECURSOR	PSEUDOMONAS AERUGINOSA	267-294							
PNOSZ_PSEST	NITROUS-OXIDE REDUCTASE PRECURSOR	PSEUDOMONAS STUTZERI	555-591							
PNPRE_BACAM	BACILLOLYSIN PRECURSOR	BACILLUS AMYLOLIQUEFACIENS	113-147	217-244						
PNPRE_BACPO	BACILLOLYSIN PRECURSOR	BACILLUS POLYMYXA	57-91	187-220						
PNPRE_BACSU	BACILLOLYSIN PRECURSOR	BACILLUS SUBTILIS	116-146	307-334						
PNQO1_PARDE	NADH-UBIQUINONE OXIDOREDUCTASE 51 KD CHAIN	PARACOCCUS DENITRIFICANS	4-45							
PNQO9_PARDE	NADH-UBIQUINONE OXIDOREDUCTASE 30 KD CHAIN	PARACOCCUS DENITRIFICANS	125-153							
PNRED_ECOLI	ANAER RIBONUCLOTIDE REDUCTASE	ESCHERICHIA COLI	91-125							
PNRFA_ECOLI	CYTOCHROME C552 PRECURSOR	ESCHERICHIA COLI	319-346							
PNRFG_ECOLI	NRFG PROTEIN	ESCHERICHIA COLI	72-111							
PNRLI_RHORH	ALIPHATIC NITRILASE	RHODOCOCCUS RHODOCHROUS	109-136							
PNSR_LACLA	NISIN-RESISTANCE PROTEIN	LACTOCOCCUS LACTIS	52-79	135-162						
PNTCA_ANASP	DNA-BINDING PROTEIN VFI	ANABAENA SP	63-92							
PNTCA_STYP1	GLOBAL NITROGEN REGULATOR	SYNECHOCOCCUS SP	44-91							
PNTCA_SYNY3	GLOBAL NITROGEN REGULATOR	SYNECHOCYSTIS SP	67-94							
PNTRB_VIBAL	NITROGEN REGULATION PROTEIN NTRB	VIBRIO ALGINOLYTICUS	184-223							
PNTRC_PROVU	NITROGEN REGULATION PROTEIN NR	PROTEUS VULGARIS	385-412							
PNTRC_RHIME	NITROGEN ASSIMILATION REGULATORY PROTEIN	RHIZOBIUM MELILOTI	451-478							
PNU3C_SYNP3	NADH-PLASTOQUINONE OXIDOREDUCTASE CHAIN	SYNECHOCOCCUS SP	80-107							
PNU3C_SYNY3	NADH-PLASTOQUINONE OXIDOREDUCTASE CHAIN	SYNECHOCYSTIS SP	27-54							
PNU3C_SYNP1	NADH-PLASTOQUINONE OXIDOREDUCTASE CHAIN	SYNECHOCOCCUS SP	614-641							

GENE	10711714	Prokaryotic Sequences									
ELEMNAME	PROTEIN	ORGANISM	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1
PNUC_SYNY3	PROB NADH-UBIQUINONE OXIDOREDUCTASE SUBU	SYNECHOCYSTIS SP	169-190								
PNUC_SYNY3	PROB NADH-UBIQUINONE OXIDOREDUCTASE SUBU	SYNECHOCYSTIS SP	169-199								
PNUX_SYNY3	NADH-PLASTOQUINONE OXIDOREDUCTASE CHAIN	SYNECHOCYSTIS SP	46-80								
PNUO0_ECOLI	NADH DEHYDROGENASE I CHAIN O	ESCHERICHIA COLI	368-402								
PNUOL_ECOLI	NADH DEHYDROGENASE I CHAIN L	ESCHERICHIA COLI	30-57	496-523							
PNUON_ECOLI	NADH DEHYDROGENASE I CHAIN N	ESCHERICHIA COLI	392-419								
PNUPC_ECOLI	NUCLEOTIDE PEAMEASE	ESCHERICHIA COLI	113-43	134-164	356-383						
PNUSA_ECOLI	NUSA PROTEIN	ESCHERICHIA COLI	21-62								
PNUSB_ECOLI	N UTILIZATION SUBSTANCE PROTEIN B	ESCHERICHIA COLI	17-85	90-97							
PNUSG_ECOLI	TRANSCRIPTION ANTITERMINATION PROTEIN NUS	ESCHERICHIA COLI	141-168								
PNUSG_THEMA	TRANSCRIPTION ANTITERMINATION PROTEIN NUS	THERMOTOGA MARITIMA	201-230								
PNYLB_FLASP	6-AMINOHEXANOATE-DIMER HYDROLASE	FLAVOBACTERIUM SP	223-250								
PNYLC_FLASP	6-AMINOHEXANOATE-DIMER HYDROLASE	FLAVOBACTERIUM SP	223-250								
POIAG_BACCE	OLIGO-1,6-GLUCOSIDASE	BACILLUS CEREUS	301-328								
POCCT_AGRTU	OCTOPINE-BINDING PROTEIN T PRECURSOR	AGROBACTERIUM TUMEFACIENS	172-201								
POI01_AZOVI	2-OXOGLUTARATE DEHYDROGENASE E1 COMPONE	AZOTOBACTER VINELANDII	829-856								
POD01_BACSU	2-OXOGLUTARATE DEHYDROGENASE E1 COMPONE	BACILLUS SUBTILIS	417-534	809-850							
POD01_ECOLI	2-OXOGLUTARATE DEHYDROGENASE E1 COMPONE	ESCHERICHIA COLI	6-33								
POD01_BACSU	DIHYDROLIPOAMIDE SUC-TRANSF COMP	BACILLUS SUBTILIS	30-60								
POD0B_PSEPU	2-OXOGLUTARATE DEHYDROGENASE E1 COMPONE	PSEUDOMONAS PUTIDA	223-254								
POD01_ECOLI	PYRUVATE DEHYDROGENASE E1 COMPONENT	ESCHERICHIA COLI	624-651								
POD02_AZOVI	DIHYDROLIPOAMIDE ACETRANS COMP	AZOTOBACTER VINELANDII	518-545								
POD02_ECOLI	DIHYDROLIPOAMIDE ACETRANS COMP	ESCHERICHIA COLI	14-41	117-144							
POD0A_BACST	PYRUVATE DEHYDROGENASE E1 COMPONENT	BACILLUS STEAROTHERMOPHILUS	299-333								
POD0A_BACSU	PYRUVATE DEHYDROGENASE E1 COMPONENT	BACILLUS SUBTILIS	305-333								
POD0B_BACST	PYRUVATE DEHYDROGENASE E1 COMPONENT	BACILLUS STEAROTHERMOPHILUS	23-50								
POD0B_BACSU	PYRUVATE DEHYDROGENASE E1 COMPONENT	BACILLUS SUBTILIS	16-50								
POHIE_CHLTR	15 KD CYSTEINE-RICH PROTEIN, SEROVAR E	CHLAMYDIA TRACHOMATIS	38-65								
POHA1_NEIGO	OUTER MEMBRANE PROTEIN P1 A PRECURSOR	NEISSERIA GONORRHOEAE	63-90								
POHA1_NEIME	OUTER MEMBRANE PROTEIN P1 A PRECURSOR	NEISSERIA MENINGITIDIS	359-386								
POHA1_NEIME	OUTER MEMBRANE PROTEIN P1 A PRECURSOR	NEISSERIA MENINGITIDIS	333-360								
POHB1_NEIGO	OUTER MEMBRANE PROTEIN P1B PRECURSOR	NEISSERIA GONORRHOEAE	63-90								
POHB1_NEIME	OUTER MEMBRANE PROTEIN P1B PRECURSOR	NEISSERIA MENINGITIDIS	63-90								
POHB2_NEIGO	OUTER MEMBRANE PROTEIN P1B PRECURSOR	NEISSERIA GONORRHOEAE	63-90								
POHB2_NEIME	OUTER MEMBRANE PROTEIN P1B PRECURSOR	NEISSERIA MENINGITIDIS	63-90								
POHB3_NEIME	OUTER MEMBRANE PROTEIN P1B PRECURSOR	NEISSERIA MENINGITIDIS	63-90								
POHB4_NEIME	OUTER MEMBRANE PROTEIN P1B PRECURSOR	NEISSERIA MENINGITIDIS	24-51	61-90							
POHB_NEILA	OUTER MEMBRANE PROTEIN P1B PRECURSOR	NEISSERIA LACTAMICA	116-143								
POHB_NEISI	OUTER MEMBRANE PROTEIN P1B PRECURSOR	NEISSERIA SICCA	24-51	61-90							
POHLA_ACTPL	OUTER MEMBRANE LIPOPROTEIN PRECURSOR	ACTINOBACILLUS PLEUROPNEUMONIAE	114-151								
POHP1_HAEIN	OUTER MEMBRANE PROTEIN P1 PRECURSOR	HAEMOPHILUS INFLUENZAE	134-184	303-330	341-368						
POHP1_HAEIN	OUTER MEMBRANE PROTEIN P1 PRECURSOR	HAEMOPHILUS INFLUENZAE	16-71	220-254	326-353						
POHP3_NEIGO	OUTER MEMBRANE PROTEIN P III PRECURSOR	NEISSERIA GONORRHOEAE	14-41								
POHP3_STAAU	70 KD OUTER MEMBRANE PROTEIN PRECURSOR	STAPHYLOCOCCUS AUREUS	53-80	88-115							
POHPA_THEMA	OUTER MEMBRANE PROTEIN ALPHA PRECURSOR	THERMOTOGA MARITIMA	100-138	151-178	183-249	255-292	301-338	351-385			
POHPC_ECOLI	OUTER MEMBRANE PROTEIN C PRECURSOR	ESCHERICHIA COLI	20-47	64-94							
POHPC_NEIGO	OUTER MEMBRANE PROTEIN P IIC PRECURSOR	NEISSERIA GONORRHOEAE	89-123								
POHPC_SALTI	OUTER MEMBRANE PROTEIN C PRECURSOR	SALMONELLA TYPHI	166-193								
POHPF_ECOLI	OUTER MEMBRANE PROTEIN F PRECURSOR	ESCHERICHIA COLI	21-55	231-258							
POMPH_PHYSY	OMPH PROTEIN	PHOTOBACTERIUM SP	292-319								
POMPT_ECOLI	PROTEASE VII PRECURSOR	ESCHERICHIA COLI	37-64								
POP65_NEIGO	OPACITY PROTEIN OPA65	NEISSERIA GONORRHOEAE	31-111								
POP67_NEIGO	OPACITY PROTEIN OPA67	NEISSERIA GONORRHOEAE	72-109								
POPAA_NEIGO	OPACITY PROTEIN OPA33	NEISSERIA GONORRHOEAE	71-123	140-167							
POPAG_NEIGO	OPACITY PROTEIN OPA32	NEISSERIA GONORRHOEAE	80-107	140-167							
POPAJ_NEIGO	OPACITY PROTEIN OPA34	NEISSERIA GONORRHOEAE	80-107								
POPAJ_NEIGO	OPACITY PROTEIN OPA38	NEISSERIA GONORRHOEAE	71-105								

PEGASE	10711814	Prokaryotic Sequences									
FILENAME	PROTEIN	ORGANISM	AREA1	AREA1	AREA1	AREA4	AREA5	AREA6	AREA7	AREA1	AREA2
POPAK_NEIGO	OPACITY PROTEIN OPA57	NEISSERIA GONORRHOEAE	71-109								
POPDA_ECOLI	OLIGOPEPTIDASE A	ESCHERICHIA COLI	147-174								
POPDA_SALTY	OLIGOPEPTIDASE A	SALMONELLA TYPHIMURIUM	147-174								
POPDE_PSEAE	TRANSCRIPTION FACTOR OPDE	PSEUDOMONAS AERUGINOSA	64-91								
POPPA_ECOLI	OLIGOPEPTIDE-BINDING PROTEIN PRECURSOR	ESCHERICHIA COLI	402-432								
POPPB_SALTY	OLIGOPEPTIDE PERMEASE PROTEIN OPPB	SALMONELLA TYPHIMURIUM	265-299								
POPR1_NEIME	OPACITY-RELATED PROTEIN POPM1	NEISSERIA MENINGITIDIS	108-135								
POPU_NEIME	OPACITY-RELATED PROTEIN POPM3	NEISSERIA MENINGITIDIS	94-133								
POSMC_ECOLI	OSMOTICALLY INDUCIBLE PROTEIN OSMC	ESCHERICHIA COLI	5-32								
POSPA_BORBU	OUTER SURFACE PROTEIN A PRECURSOR	BORRELIA BURGDORFERI	63-100	112-139	157-204	223-271					
POSPB_BORBU	OUTER SURFACE PROTEIN B PRECURSOR	BORRELIA BURGDORFERI	113-159	262-296							
POTC2_BACSU	ORNITHINE CARBAMOYLTRANSFERASE	BACILLUS SUBTILIS	188-215								
POTCC_PSEAE	ORNITHINE CARBAMOYLTRANSFERASE	PSEUDOMONAS AERUGINOSA	17-46								
POTCC_PSEPU	ORNITHINE CARBAMOYLTRANSFERASE	PSEUDOMONAS PUTIDA	5-33								
POUTB_BACSU	SPORE OUTGROWTH FACTOR B	BACILLUS SUBTILIS	225-252								
POUTO_ERWCA	LEADER PEPTIDASE	ERWINIA CAROTOVORA	189-216								
PP10K_STRJA	10 KD PROTEIN IN FIMA 3'REGION	STREPTOCOCCUS PARASANGUIS	115-149								
PP11K_STRJA	18 KD PROTEIN IN SSAB 3'REGION	STREPTOCOCCUS SANGUIS	10-37	114-148							
PP1P_LACLC	PI-TYPE PROTEINASE PRECURSOR	LACTOCOCCUS LACTIS	107-155	904-950	1073-1100	1223-1250	1446-1496	1625-1655			
PP29_MYCHR	PROTEIN P29	MYCOPLASMA HYORHINIS	5-56	101-160	202-246						
PP2P_LACLA	PI-TYPE PROTEINASE PRECURSOR	LACTOCOCCUS LACTIS	107-155	904-950	1073-1100	1223-1250	1446-1496	1625-1689			
PP2P_LACPA	PI-TYPE PROTEINASE PRECURSOR	LACTOBACILLUS PARACASEI	107-155	904-941	1073-1100	1223-1250	1446-1496	1628-1655			
PP34_RICJ	PROTEIN P34	ESCHERICHIA COLI	55-82								
PP37_MYCHR	PROTEIN P37 PRECURSOR	RICKETTSIA RICKETTSII	9-47	135-173							
PP3P_LACLC	PIII-TYPE PROTEINASE PRECURSOR	MYCOPLASMA HYORHINIS	38-75								
PP47K_PSECL	47 KD PROTEIN	LACTOCOCCUS LACTIS	107-155	904-950	1073-1100	1223-1250	1446-1496	1628-1655			
PP54_ENTFC	P54 PROTEIN PRECURSOR	PSEUDOMONAS CHLORORAPHIS	286-315								
PP60_LISGA	PROTEIN P60 PRECURSOR	ENTEROCOCCUS FAECIUM	58-93	141-209							
PP60_LISIN	PROTEIN P60 PRECURSOR	LISTERIA GRAYI	31-61	101-142	300-334	431-458					
PP60_LISIV	PROTEIN P60 PRECURSOR	LISTERIA INNOCUA	67-94	102-143							
PP60_LISMO	PROTEIN P60 PRECURSOR	LISTERIA IVANOVII	101-140	315-359							
PP60_LISSE	PROTEIN P60 PRECURSOR	LISTERIA MONOCYTOGENES	103-144								
PP60_LISWE	PROTEIN P60 PRECURSOR	LISTERIA SEELIGERI	101-140	276-298	321-365	395-422					
PP69_MYCHR	PROTEIN P69	LISTERIA WELSHIMERI	113-140	317-361	396-423						
PPABA_BACSU	ADC SYNTHASE	MYCOPLASMA HYORHINIS	284-295	421-464	487-517	544-575					
PPABC_BACSU	4-AMINO-4-DEOXYCHORISMATE LYASE	BACILLUS SUBTILIS	12-41								
PPABC_ECOLI	4-AMINO-4-DEOXYCHORISMATE LYASE	BACILLUS SUBTILIS	256-277								
PPABL_STRGA	PROTEIN Y	ESCHERICHIA COLI	140-167								
PPAC_ARTVI	PENICILLIN ACYLASE PRECURSOR	STREPTOMYCES GRISEUS	52-79								
PPAC_BACSH	PENICILLIN ACYLASE	ARTHROBACTER VISCOSUS	170-197	333-363	571-606	640-674					
PPAC_STRMU	PAC PROTEIN PRECURSOR	BACILLUS SPHAERICUS	233-259								
PPAII_BACSU	REGULATORY PROTEIN PAI1	STREPTOCOCCUS MUTANS	146-176	281-465	538-565	576-630	1075-1102	1159-1186	1301-1434		
PPAI2_BACSU	REGULATORY PROTEIN PAI2	BACILLUS SUBTILIS	103-137								
PPAPE_ECOLI	FIMBRIAL PROTEIN PAPE	BACILLUS SUBTILIS	145-172								
PPAPF_ECOLI	MINOR FIMBRIAL PROTEIN PAPF	ESCHERICHIA COLI	47-69	86-123							
PPAPG_ECOLI	FIMBRIAL PROTEIN PAPG PRECURSOR	ESCHERICHIA COLI	4-31								
PPARA_AGRTU	PARA PROTEIN	ESCHERICHIA COLI	282-316								
PPARB_ECOLI	PLASMID PARTITION PAR B PROTEIN	AGROBACTERIUM TUMEFACIENS	60-87								
PPASE_ECOLI	TOPOISOMERASE IV SUBUNIT B	ESCHERICHIA COLI	117-154	249-283							
PPASE_SALTY	TOPOISOMERASE IV SUBUNIT B	ESCHERICHIA COLI	444-471	538-553							
PPA_BACAT	PROTECTIVE ANTIGEN PRECURSOR	SALMONELLA TYPHIMURIUM	444-471	536-553							
PPBP1_ECOLI	PENICILLIN-BINDING PROTEIN 2	BACILLUS ANTHRACIS	111-52	125-152	296-335	585-615	650-684				
PPBP2_NEIGO	PENICILLIN-BINDING PROTEIN 2	ESCHERICHIA COLI	95-122	178-205	207-241						
PPBP2_NEIME	PENICILLIN-BINDING PROTEIN 2	NEISSERIA GONORRHOEAE	193-220								
PPBP2_STRPN	PENICILLIN-BINDING PROTEIN 2B	NEISSERIA MENINGITIDIS	193-220								
PPBPJ_ECOLI	PENICILLIN-BINDING PROTEIN 3 PRECURSOR	STREPTOCOCCUS PNEUMONIAE	144-183	214-243	259-286	605-632					
		ESCHERICHIA COLI	224-251	334-368							

PCGENE	10:17:26:4	Prokaryotic Sequences								
FILE NAME	PROTEIN	ORGANISM	AREA 1	AREA 1	AREA 1	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PPBP4_BACSU	PENICILLIN-BINDING PROTEIN 4*	BACILLUS SUBTILIS	174-401								
PPBP4_ECOLI	PENICILLIN-BINDING PROTEIN 4 PRECURSOR	ESCHERICHIA COLI	136-363								
PPBPA_ECOLI	PENICILLIN-BINDING PROTEIN 1A	ESCHERICHIA COLI	145-173								
PPBPB_ECOLI	PENICILLIN-BINDING PROTEIN 1B	ESCHERICHIA COLI	62-96	363-389							
PPBPX_STRPN	PENICILLIN-BINDING PROTEIN 2X	STREPTOCOCCUS PNEUMONIAE	89-116	706-733							
PPBP_STAAU	PENICILLIN-BINDING PROTEIN	STAPHYLOCOCCUS AUREUS	78-108	176-201	363-324	502-529					
PPCAB_PSEPU	CYCLOISOMERASE	PSEUDOMONAS PUTIDA	115-142	226-253							
PPEL1_ERWCA	PECTATE LYASE III PRECURSOR	ERWINIA CAROTOVORA	110-137								
PPELA_ERWCA	PECTATE LYASE A PRECURSOR	ERWINIA CAROTOVORA	110-137								
PPELB_ERWCA	PECTATE LYASE B PRECURSOR	ERWINIA CAROTOVORA	110-137								
PPELC_ERWCA	PECTATE LYASE C PRECURSOR	ERWINIA CAROTOVORA	110-137								
PPELF_ERWCH	PECTATE LYASE E PRECURSOR	ERWINIA CHRYSANTHEMI	40-67	209-243							
PPELP_ERWCA	PERIPLASMIC PECTATE LYASE PRECURSOR	ERWINIA CAROTOVORA	455-482								
PPELP_YERPS	PERIPLASMIC PECTATE LYASE PRECURSOR	YERSINIA PSEUDOTUBERCULOSIS	439-489								
PPELX_ERWCA	PUTATIVE PECTATE LYASE X PRECURSOR	ERWINIA CAROTOVORA	188-218								
PPELX_ERWCH	EXOPOLYGALACTURONATE LYASE PRECURSOR	ERWINIA CHRYSANTHEMI	466-493								
PPEPD_ECOLI	AMINOACYL-HISTIDINE DIPEPTIDASE	ESCHERICHIA COLI	264-314								
PPEPQ_ECOLI	X-PRO DIPEPTIDASE	ESCHERICHIA COLI	231-278								
PPERT_BORBR	PERTACTIN PRECURSOR	BORDETELLA BRONCHISEPTICA	617-644								
PPERT_BORPA	PERTACTIN PRECURSOR	BORDETELLA PARAPERTUSSIS	618-645								
PPERT_BORPE	PERTACTIN PRECURSOR	BORDETELLA PERTUSSIS	616-643								
PPGK_CORGL	PHOSPHOGLYCERATE KINASE	CORYNEBACTERIUM GLUTAMICUM	81-117								
PPGK_ECOLI	PHOSPHOGLYCERATE KINASE	ESCHERICHIA COLI	186-216								
PPGK_METBR	PHOSPHOGLYCERATE KINASE	METHANOBACTERIUM BRYANTII	36-63								
PPGK_THETH	PHOSPHOGLYCERATE KINASE	THERMUS AQUATICUS	222-249								
PPGLI_ERWCA	ENDO-POLYGALACTURONASE PRECURSOR	ERWINIA CAROTOVORA	237-271								
PPGTE_SALTY	OUTER MEMBRANE PROTEASE E PRECURSOR	SALMONELLA TYPHIMURIUM	66-93								
PPHA1_FREDI	C-PHYCOCYANIN-1 ALPHA CHAIN	FREMYELLA DIPLOSIPHON	21-48								
PPHA2_FREDI	C-PHYCOCYANIN-2 ALPHA CHAIN	FREMYELLA DIPLOSIPHON	21-48								
PPHAA_PSEOL	POLY(3-HYDROXYALKANOATE) POLYMERASE 1	PSEUDOMONAS OLEOVORANS	264-291								
PPHAB_ANACY	ALLOPHYCOCYANIN BETA CHAIN	ANABAENA CYLINDRICA	7-48								
PPHAB_ANAVA	ALLOPHYCOCYANIN BETA CHAIN	ANABAENA VARIABILIS	14-48								
PPHAB_FREDI	ALLOPHYCOCYANIN BETA CHAIN	FREMYELLA DIPLOSIPHON	8-49								
PPHAB_MASLA	ALLOPHYCOCYANIN BETA CHAIN	MASTIGOCLADUS LAMINOSUS	14-41								
PPHAB_SYNP6	ALLOPHYCOCYANIN BETA CHAIN	SYNECHOCOCCUS SP	14-41								
PPHAC_SYNP6	ALLOPHYCOCYANIN ALPHA-B CHAIN	SYNECHOCOCCUS SP	33-60								
PPHAG_FREDI	ALLOPHYCOCYANIN GAMMA CHAIN	FREMYELLA DIPLOSIPHON	32-59								
PPHB1_FREDI	C-PHYCOCYANIN-1 BETA CHAIN	FREMYELLA DIPLOSIPHON	38-16								
PPHBB_ALCEU	ACETOACETYL_COA REDUCTASE	ALCALIGENES EUTROPHUS	33-85								
PPHCA_SYNY1	C-PHYCOCYANIN ALPHA CHAIN	SYNECHOCYSTIS SP	21-55								
PPHCB_SYNP6	C-PHYCOCYANIN BETA CHAIN	SYNECHOCOCCUS SP	28-55								
PPHCB_SYNY1	C-PHYCOCYANIN BETA CHAIN	SYNECHOCYSTIS SP	21-53								
PPHEA_ECOLI	CHORISMATE MUTASE	ESCHERICHIA COLI	10-37								
PPHEA_ERWHE	CHORISMATE MUTASE	ERWINIA HERBICOLA	10-37	139-186	232-286						
PPHEA_PSESP	PHENOL 2-MONOOXYGENASE	PSEUDOMONAS SP	171-201	282-314	437-464						
PPHEB_MASLA	PHYCOERYTHROCYANIN BETA CHAIN	MASTIGOCLADUS LAMINOSUS	21-62								
PPHEB_PSESP	CATECHOL 1,3-DIOXYGENASE	PSEUDOMONAS SP	24-51								
PPHEO_SYNPY	LINKER POLYPEPTIDE	SYNECHOCOCCUS SP	158-185								
PPHEP_ECOLI	PHENYLALANINE-SPECIFIC PERMEASE	ESCHERICHIA COLI	284-311								
PPHFI_CLOPA	PERPLASMIC [FE] HYDROGENASE 1	CLOSTRIDIUM PASTEURIANUM	434-471								
PPHL1_BACCE	SPHINGOMYELINASE C PRECURSOR	BACILLUS CEREUS	2-36								
PPHL2_BACCE	SPHINGOMYELINASE C PRECURSOR	BACILLUS CEREUS	2-36								
PPHL3_BACCE	SPHINGOMYELINASE C PRECURSOR	BACILLUS CEREUS	2-36								
PPHLC_BACCE	PHOSPHOLIPASE C PRECURSOR	BACILLUS CEREUS	32-59	179-206							
PPHLC_CLOBI	PHOSPHOLIPASE C PRECURSOR	CLOSTRIDIUM BIFERMENTANS	58-77	333-365							
PPHLC_CLOPE	PHOSPHOLIPASE C PRECURSOR	CLOSTRIDIUM PERFRINGENS	210-237	369-398							

PCGENE	10Jul1994	Prokaryotic Sequences								
FILE NAME	PROTEIN	ORGANISM	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1
PPHLC_LISMO	PHOSPHOLIPASE C PRECURSOR	LISTERIA MONOCYTOGENES	147-174							
PPHLC_PSEAE	HEMOLYTIC PHOSPHOLIPASE C PRECURSOR	PSEUDOMONAE AERUGINOSA	685-712							
PPHLC_STAAU	PHOSPHOLIPASE C PRECURSOR	STAPHYLOCOCCUS AUREUS	6-33							
PPHLD_BACCE	PHOSPHOLIPASE C PRECURSOR	BACILLUS CEREUS	179-206							
PPHL_LEPIN	SPHINGOMYELINASE C PRECURSOR	LEPTOSPIRA INTERROGANS	30-57	394-428						
PPIND_ECOLI	PIND PROTEIN	ESCHERICHIA COLI	296-328							
PPIINK_ECOLI	PIINK PROTEIN	ESCHERICHIA COLI	178-205							
PPIINM_ECOLI	PIINM PROTEIN	ESCHERICHIA COLI	5-33							
PPIOE_CITFR	OUTER MEMBRANE PORE PROTEIN E PRECURSOR	CITROBACTER FREUNDII	13-40	47-105						
PPIOE_ECOLI	OUTER MEMBRANE PORE PROTEIN E PRECURSOR	ESCHERICHIA COLI	13-40	64-105	184-195	226-253				
PPIOE_KLEOX	OUTER MEMBRANE PORE PROTEIN E PRECURSOR	KLEBSIELLA OXYTOCA	13-40	64-91						
PPIOE_KLEPN	OUTER MEMBRANE PORE PROTEIN E PRECURSOR	KLEBSIELLA PNEUMONIAE	13-40	64-105						
PPIOE_SALTY	OUTER MEMBRANE PORE PROTEIN E PRECURSOR	SALMONELLA TYPHIMURIUM	63-104	320-347						
PPIOP_BACSU	ALK PHOS SYNTHESIS TRANS REG PROTEIN	BACILLUS SUBTILIS	63-119	185-219						
PPIOQ_ECOLI	SENSOR PROTEIN PHOQ	ESCHERICHIA COLI	244-278							
PPIOQ_SALTY	VIRULENCE SENSOR PROTEIN PHOQ	SALMONELLA TYPHIMURIUM	226-260							
PPIOR_BACSU	ALK PHOS SYNTHESIS SENSOR PROTEIN PHOR	BACILLUS SUBTILIS	89-145	387-423						
PPIRA_ECOLI	PHOTOREPAIR PROTEIN PHRA	ESCHERICHIA COLI	61-90	207-241						
PPIRA_SYNPY	R.PHYCOCYANIN II ALPHA CHAIN	SYNECHOCOCCUS SP	20-47							
PPIRA_SYNPZ	R.PHYCOCYANIN II ALPHA CHAIN	SYNECHOCOCCUS SP	20-47							
PPHSG_ECOLI	GLYCOGEN PHOSPHORYLASE	ESCHERICHIA COLI	157-184	488-515						
PPHSM_ECOLI	MALTODEXTRIN PHOSPHORYLASE	ESCHERICHIA COLI	31-108							
PPILA_NEIGO	PROB SIGNAL RECOGNITION PARTICLE PROTEIN	NEISSERIA GONORRHOEAE	17-68							
PPILB_PSEAE	FIMBRIAL ASSEMBLY PROTEIN PILB	PSEUDOMONAS AERUGINOSA	10-60							
PPILC_PSEAE	PILC PROTEIN	PSEUDOMONAS AERUGINOSA	143-170							
PPILD_NEIGO	LEADER PEPTIDASE	NEISSERIA GONORRHOEAE	110-137							
PPILQ_PSEAE	FIMBRIAL ASSEMBLY PROTEIN PILQ PRECURSOR	PSEUDOMONAS AERUGINOSA	31-115	639-666						
PPILS_PSEAE	SENSOR PROTEIN PILS	PSEUDOMONAS AERUGINOSA	9-46							
PPIR_ECOLI	PI PROTEIN	ESCHERICHIA COLI	156-188							
PPIV_MORBO	PILIN GENE INVERTING PROTEIN	MORAXELLA BOVIS	62-89	152-182						
PPIV_MORLA	PILIN GENE INVERTING PROTEIN	MORAXELLA LACUNATA	152-182							
PPLC_BACCE	PHOSPHODIESTERASE PRECURSOR	BACILLUS CEREUS	217-245							
PPLC_BACTU	PHOSPHODIESTERASE PRECURSOR	BACILLUS THURINGIENSIS	216-245							
PPLSC_ECOLI	ACYLTRANSFERASE	LISTERIA MONOCYTOGENES	238-265							
PPLSX_ECOLI	PLSX PROTEIN	ESCHERICHIA COLI	106-133							
PPLYD_ERWCA	PECTIN LYASE	ESCHERICHIA COLI	241-270							
PPMBA_ECOLI	PMBA PROTEIN	ERWINIA CAROTOVORA	21-92							
PPMPE_ERWCH	PECTINESTERASE PRECURSOR	ESCHERICHIA COLI	9-50							
PPNGY_ECOLI	PHOSPHOGLYCERATE MUTASE	ERWINIA CHRYSANTHEMI	60-87							
PPNGY_ZYMM	PHOSPHOGLYCERATE MUTASE	ESCHERICHIA COLI	82-116							
PPNP_ECOLI	POLYRIBONUCLEOTIDYLTRANSF	ZYMOMONAS MOBILIS	13-40	80-110						
PPNR_SALTY	PNR PROTEIN	ESCHERICHIA COLI	360-394							
PPOOK_BACSY	PYRUVATE ORTHOPHOSPHATE DIKINASE	SALMONELLA TYPHIMURIUM	178-205							
PPOOT_PSESY	OUTER MEMBRANE PORIN F PRECURSOR	BACTEROIDES SYMBIOSUS	51-78							
PPORO_PSEAE	PORIN O PRECURSOR	PSEUDOMONAS SYRINGAE	111-138							
PPORP_PSEAE	PORIN P PRECURSOR	PSEUDOMONAS AERUGINOSA	390-424							
PPOTD_ECOLI	BINDING PROTEIN PRECURSOR	PSEUDOMONAS AERUGINOSA	139-181	266-287	369-396					
PPOTE_ECOLI	PUTRESCINE-ORNITHINE ANTIPORTER	ESCHERICHIA COLI	320-347							
PPOXD_ECOLI	PYRUVATE DEHYDROGENASE	ESCHERICHIA COLI	91-118							
PPPB1_BACSU	ALKALINE PHOSPHATASE III PRECURSOR	BACILLUS SUBTILIS	8-38							
PPPB4_BACSU	ALKALINE PHOSPHATASE IV PRECURSOR	BACILLUS SUBTILIS	109-130	433-460						
PPPB_ECOLI	ALKALINE PHOSPHATASE PRECURSOR	ESCHERICHIA COLI	85-123	336-363						
PPPB_ESCRE	ALKALINE PHOSPHATASE PRECURSOR	ESCHERICHIA FERGUSONII	235-262							
PPPCE_FLAME	PROLYL ENDOPEPTIDASE PRECURSOR	FLAVOBACTERIUM MENINGOSEPTICUM	238-265							
PPPCF_FLAME	PROLYL ENDOPEPTIDASE PRECURSOR	FLAVOBACTERIUM MENINGOSEPTICUM	138-199							
PPPCK_ECOLI	PHOSPHOENOLPYRUVATE CARBOXYKINASE	ESCHERICHIA COLI	138-199	356-383						
			43-72							

PCGENE	107x178x4	Prokaryotic Sequences									
FILE_NAME	PROTEIN	ORGANISM	AREA1	AREA1	AREA2	AREA4	AREA3	AREA5	AREA7	AREA8	AREA9
PPPDA_CLOPE	PROTEIN A PRECURSOR	CLOSTRIDIUM PERFRINGENS	33-107								
PPPSA_ECOLI	PHOSPHOENOLPYRUVATE SYNTHASE	ESCHERICHIA COLI	49-76								
PPQQ2_ACICA	COENZYME PQQ SYNTHESIS PROTEIN II	ACINETOBACTER CALCOACETICUS	40-74								
PPRCA_ANAVA	CALCIUM DEPENDENT PROTEASE PRECURSOR	ANABAENA VARIABILIS	331-398								
PPRCA_THEAC	PROTEASOME, ALPHA SUBUNIT	THERMOPLASMA ACIDOPHILUM	88-115								
PPRC_ECOLI	TAIL-SPECIFIC PROTEASE PRECURSOR	ESCHERICHIA COLI	158-192	366-391							
PPREI_STAAU	PLASMID RECOMBINATION ENZYME	STAPHYLOCOCCUS AUREUS	27-78	155-179	264-347						
PPREI_STAAU	PLASMID RECOMBINATION ENZYME	STAPHYLOCOCCUS AUREUS	48-75	181-208	310-361	366-393					
PPREA_LACPL	PLASMID RECOMBINATION ENZYME	LACTOBACILLUS PLANTARUM	37-71	291-318							
PPRE_BACLI	REGULATORY PROTEIN	BACILLUS LICHENIFORMIS	2-40								
PPRE_BACSP	PLASMID RECOMBINATION ENZYME	BACILLUS SP	181-224	288-345							
PPRE_STRAG	PLASMID RECOMBINATION ENZYME	STREPTOCOCCUS AGALACTIAE	285-319	332-359	420-454						
PPRFA_LISMO	LISTERIOLYSIN REGULATORY PROTEIN	LISTERIA MONOCYTOGENES	76-110	175-204							
PPRIA_ECOLI	PRIMOSOMAL PROTEIN N'	ESCHERICHIA COLI	218-245								
PPRIM_BACSU	DNA PRIMASE	BACILLUS SUBTILIS	383-433								
PPRIM_BUCAP	DNA PRIMASE	BUCHNERA APHIDICOLA	13-43	282-319							
PPRIM_CLOAB	DNA PRIMASE	CLOSTRIDIUM ACETOBUTYLICUM	87-114								
PPRIM_LACLA	DNA PRIMASE	LACTOCOCCUS LACTIS	269-296								
PPRIM_RICPR	DNA PRIMASE	RICKETTSIA PROWAZEKII	10-37	245-286	477-504	526-593					
PPRIS_DESDE	PRIMASE PROTEIN	DESULFOVIBRIO DESULFURICANS	30-57								
PPRLA_ECOLI	BETA-LYTIC METALLOENDOPEPTIDASE	ACHROMOBACTER LYTICUS	317-344								
PPRLB_LYSEN	BETA-LYTIC METALLOENDOPEPTIDASE	LYSOBACTER ENZYMOGENES	131-148								
PPROT_LISMO	ZINC METALLOPROTEINASE PRECURSOR	LISTERIA MONOCYTOGENES	111-145	275-316							
PPRO1_LISMO	ZINC METALLOPROTEINASE PRECURSOR	LISTERIA MONOCYTOGENES	111-145								
PPROA_SERMA	GAMMA-GLUTAMYL PHOSPHATE REDUCTASE	SERRATIA MARCESCENS	309-336								
PPROA_STAAU	PROTEIN A PRECURSOR	STAPHYLOCOCCUS AUREUS	2-29								
PPROB_SERMA	GLUTAMATE 5-KINASE	SERRATIA MARCESCENS	7-34								
PPROB_STRAG	PROTEIN B	STREPTOCOCCUS AGALACTIAE	58-85								
PPROC_PSEAE	PYRROLINE-5-CARBOXYLATE REDUCTASE	PSEUDOMONAS AERUGINOSA	148-175								
PPROH_BACSU	PYRROLINE-5-CARBOXYLATE REDUCTASE HOMOL	BACILLUS SUBTILIS	200-227								
PPROP_ECOLI	PROLINE/BETAINE TRANSPORTER	ESCHERICHIA COLI	460-487								
PPROV_ECOLI	PERIPHERAL MEMBRANE PROTEIN PROV	ESCHERICHIA COLI	24-54								
PPROV_SALTY	PERIPHERAL MEMBRANE PROTEIN PROV	SALMONELLA TYPHIMURIUM	24-54								
PPRRB_ECOLI	PRRB PROTEIN	ESCHERICHIA COLI	170-197								
PPRRC_ECOLI	ANTICODON NUCLEASE	ESCHERICHIA COLI	282-309								
PPRRD_ECOLI	PRRD PROTEIN	ESCHERICHIA COLI	278-305								
PPRSA_BACSU	PROTEIN EXPORT PROTEIN PRSA PRECURSOR	BACILLUS SUBTILIS	32-87	93-157							
PPRTA_STRGR	PROTEASE A PRECURSOR	STREPTOMYCES GRISEUS	56-110								
PPRTC_ERWCH	SECRETED PROTEASE C PRECURSOR	ERWINIA CHRYSANTHEMI	107-130								
PPRTC_PORGI	COLLAGENASE PRECURSOR	PORPHYROMONAS GINGIVALIS	285-313								
PPRTD_ERWCH	PROTEASES SECRETION PROTEIN PRTD	ERWINIA CHRYSANTHEMI	328-355								
PPRTE_BACHO	EXTRACELLULAR SERINE PROTEASE PRECURSOR	BACTEROIDES NODOSUS	106-133	219-265	346-384						
PPRTU_ERWCH	PROTEASES SECRETION PROTEIN PRTE	ERWINIA CHRYSANTHEMI	108-135	138-192	231-290						
PPRTF_ERWCH	PROTEASES SECRETION PROTEIN PRTF	ERWINIA CHRYSANTHEMI	280-310								
PPRTM_LACLA	PROTEASE MATURATION PROTEIN PRECURSOR	LACTOCOCCUS LACTIS	76-103	112-139							
PPRTM_LACLC	PROTEASE MATURATION PROTEIN PRECURSOR	LACTOCOCCUS LACTIS	26-53	76-103	112-139						
PPRTM_LACPA	PROTEASE MATURATION PROTEIN PRECURSOR	LACTOBACILLUS PARACASEI	76-103	112-139							
PPRTS_SERMA	EXTRACELLULAR SERINE PROTEASE PRECURSOR	SERRATIA MARCESCENS	1004-1031	1570-1607	1987-1041						
PPRTT_SERMA	EXTRACELLULAR SERINE PROTEASE PRECURSOR	SERRATIA MARCESCENS	1004-1031	1464-1491	1007-1041						
PPRTX_ERWCH	SECRETED PROTEASE C PRECURSOR	ERWINIA CHRYSANTHEMI	1114-1141								
PPSAA_SYNEN	CHLOROPHYLL A APOPROTEIN A1	SYNECHOCOCCUS ELONGATUS NAEGEL	128-147								
PPSAA_SYNP2	CHLOROPHYLL A APOPROTEIN A1	SYNECHOCOCCUS SP	109-136	326-356							
PPSAA_SYNVU	CHLOROPHYLL A APOPROTEIN A1	SYNECHOCOCCUS VULCANUS	128-147								
PPSAA_SYNY3	CHLOROPHYLL A APOPROTEIN A1	SYNECHOCYSTIS SP	44-71	128-147	338-368						
PPSAB_YERPE	CHAPERONE PROTEIN PSAB PRECURSOR	YERSINIA PESTIS	244-271								
PPSAD_SYNP6	PHOTOSYSTEM I REACTION CENTRE SUBUNIT II	SYNECHOCOCCUS SP	11-38								
PPSAE_YERPE	PSAE PROTEIN PRECURSOR	YERSINIA PESTIS	66-118								

PCGENE	10/31/1994	Prokaryote Sequences									
FILENAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PPSBD_ANANT	STABILIZING POLYPEPTIDE PRECURSOR	ANACYSTIS NIDULANS	99-126	208-245							
PPSPA_ECOLI	PHAGE SHOCK PROTEIN A	ESCHERICHIA COLI	15-82								
PPSRA_WOLSU	POLYSULFIDE REDUCTASE CHAIN A PRECURSOR	WOLINELLA SUCCINOGENES	114-141								
PPSTS_ECOLI	PHOSPHATE-BINDING PROTEIN PRECURSOR	ESCHERICHIA COLI	40-74								
PPTI_BACSU	PHOSPHOTRANSFERASE	BACILLUS SUBTILIS	26-60								
PPTI_ECOLI	PHOSPHOTRANSFERASE	ESCHERICHIA COLI	133-162	399-426							
PPTI_SALTY	PHOSPHOTRANSFERASE	SALMONELLA TYPHIMURIUM	232-259	399-426							
PPTI_STACA	PHOSPHOTRANSFERASE	STAPHYLOCOCCUS CARNOSUS	34-61								
PPTI_STRSL	PHOSPHOTRANSFERASE	STREPTOCOCCUS SALIVARIUS	34-61	198-232							
PPTIH_ERWCH	PHOSPHOTRANSFERASE ENZYME II	ERWINIA CHRYSANTHEMI	127-154								
PPTIG_BACSU	PHOSPHOTRANSFERASE ENZYME II	BACILLUS SUBTILIS	630-697								
PPTIL_LACCA	PHOSPHOTRANSFERASE ENZYME II	LACTOBACILLUS CASEI	537-564								
PPTIL_LACLA	PHOSPHOTRANSFERASE ENZYME II	LACTOCOCCUS LACTIS	181-214	409-436							
PPTIL_STAAU	PHOSPHOTRANSFERASE ENZYME II	STAPHYLOCOCCUS AUREUS	421-448	530-557							
PPTIM_ECOLI	PHOSPHOTRANSFERASE ENZYME II	ESCHERICHIA COLI	465-489								
PPTIN_STACA	PHOSPHOTRANSFERASE ENZYME II	STAPHYLOCOCCUS CARNOSUS	388-415								
PPTIN_ECOLI	N-ACETYLGLUCOSAMINE-PERMEASE	ESCHERICHIA COLI	370-400								
PPTIS_STRMU	PHOSPHOTRANSFERASE ENZYME II	STREPTOCOCCUS MUTANS	600-627								
PPTIT_SALTY	PHOSPHOTRANSFERASE FPR PROTEIN	SALMONELLA TYPHIMURIUM	107-134								
PPTIL_LACCA	PHOSPHOTRANSFERASE FACTOR III	LACTOBACILLUS CASEI	40-67								
PPTIP_ECOLI	PHOSPHOCARRIER PROTEIN HPR	ESCHERICHIA COLI & SALMONELLA TYPHIMURIUM	11-45								
PPTHP_KLEPN	PHOSPHOCARRIER PROTEIN HPR	KLEBSIELLA PNEUMONIAE	11-45								
PPTRB_ECOLI	PROTEASE II	ESCHERICHIA COLI	94-121	217-251							
PPULA_KLEAE	PULLULANASE	KLEBSIELLA AEROGENES	894-928								
PPULA_KLEPN	PULLULANASE	KLEBSIELLA PNEUMONIAE	894-918								
PPULO_KLEPN	LEADER PEPTIDASE	KLEBSIELLA PNEUMONIAE	178-205								
PPULS_KLEPN	PULS PRECURSOR	KLEBSIELLA PNEUMONIAE	70-97								
PPUPA_PSEPU	UPTAKE PROTEIN PRECURSOR	PSEUDOMONAS PUTIDA	112-162	210-237	439-467	736-763					
PPURI_BACSU	AMIDOPHOSPHORIBOSYLTRANSF PREC	BACILLUS SUBTILIS	394-421								
PPURJ_BACSU	PHOSPHORIBOSYLGLYCINE--GLYCINE LIGASE	BACILLUS SUBTILIS	349-376								
PPURJ_BACSU	FORMYLTRANSFERASE	BACILLUS SUBTILIS	149-176								
PPURO_ECOLI	FORMYLTRANSFERASE	ESCHERICHIA COLI	27-54								
PPUR4_BACSU	SYNTHASE I	BACILLUS SUBTILIS	18-45								
PPUR5_BACSU	CYCLO-LIGASE	BACILLUS SUBTILIS	153-184								
PPUR6_ECOLI	AIR CARBOXYLASE	ESCHERICHIA COLI	133-158								
PPUR7_BACSU	SAICAR SYNTHETASE	BACILLUS SUBTILIS	1-43								
PPUR8_BACSU	ADENYLOSUCCINATE LYASE	BACILLUS SUBTILIS	156-190	226-253							
PPUR8_ECOLI	ADENYLOSUCCINATE LYASE	ESCHERICHIA COLI	194-221	331-372							
PPUR9_BACSU	AICAR TRANSFORMYLASE	BACILLUS SUBTILIS	19-53	345-372							
PPUR9_ECOLI	AICAR TRANSFORMYLASE	ESCHERICHIA COLI	339-368								
PPUR9_SALTY	AICAR TRANSFORMYLASE	SALMONELLA TYPHIMURIUM	218-247								
PPURL_BACSU	SYNTHASE II	BACILLUS SUBTILIS	609-636								
PPYG1_ANASP	LINKER POLYPEPTIDE CPCG1	ANABAENA SP	88-115								
PPYG1_MASLA	LINKER POLYPEPTIDE CPCG1	MASTIGOCLADUS LAMINOSUS	88-116								
PPYG2_ANASP	LINKER POLYPEPTIDE CPCG2	ANABAENA SP	88-115								
PPYG2_MASLA	LINKER POLYPEPTIDE CPCG2	MASTIGOCLADUS LAMINOSUS	89-116								
PPYG3_MASLA	LINKER POLYPEPTIDE CPCG3	MASTIGOCLADUS LAMINOSUS	91-133								
PPYG4_ANASP	LINKER POLYPEPTIDE CPCG4	ANABAENA SP	90-131								
PPYR1_ANASP	32.1 KD LINKER POLYPEPTIDE	ANABAENA SP	15-62								
PPYR3_FREDI	27.9 KD LINKER POLYPEPTIDE	FREMYELLA DIPLOSIPHON	105-132								
PPYR4_FREDI	31.6 KD LINKER POLYPEPTIDE	FREMYELLA DIPLOSIPHON	23-66								
PPYR5_FREDI	31.5 KD LINKER POLYPEPTIDE	FREMYELLA DIPLOSIPHON	106-143								
PPYR6_FREDI	30.8 KD LINKER POLYPEPTIDE	FREMYELLA DIPLOSIPHON	43-70	113-140							
PPYRB_BACSU	ASPARTATE CARBAMOYLTRANSFERASE	BACILLUS SUBTILIS	8-36								
PPYRB_SERMA	ASPARTATE CARBAMOYLTRANSFERASE	SERRATIA MARCESCENS	76-97								
PPYRD_ECOLI	DIHYDROOROTATE DEHYDROGENASE	ESCHERICHIA COLI	115-142								

PCGENE	107a17Bit4	Prokaryotic Sequences									
FILE NAME	PROTEIN	ORGANISM	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PPYRD_SALTY	DIHYDROOROTATE DEHYDROGENASE	SALMONELLA TYPHIMURIUM	115-142	183-210							
PPYRG_BACSU	CTP SYNTHASE	BACILLUS SUBTILIS	275-302	322-349							
PPYS1_FREDI	PHYCOBILISOME 9 7 KD LINKER POLYPEPTIDE	FREMYELLA DIPLOSIPHON	21-48								
PQOR_ECOLI	QUINONE OXIDOREDUCTASE	ESCHERICHIA COLI	180-215								
PQUEA_ECOLI	QUEUOSINE BIOSYNTHESIS PROTEIN QUEA	ESCHERICHIA COLI	234-261								
PRJ4K_CLOPA	34 2 KD PROTEIN IN RUBREDOXIN OPERON	CLOSTRIDIUM PASTEURIANUM	23-50	157-232							
PRACC_ECOLI	RACC PROTEIN	ESCHERICHIA COLI	5-32								
PRACD_STRTR	ASPARTATE RACEMASE	STREPTOCOCCUS THERMOPHILUS	152-189								
PRACX_BACSU	PROBABLE AMINO ACID RACEMASE	BACILLUS SUBTILIS	132-162								
PRAFA_ECOLI	ALPHA-GALACTOSIDASE	ESCHERICHIA COLI	89-116								
PRAFD_ECOLI	RAFFINOSE INVERTASE	ESCHERICHIA COLI	348-375								
PRBSC_ECOLI	RIBOSE TRANSPORT SYSTEM COMPONENT	ESCHERICHIA COLI	65-99	195-222							
PRBSK_ECOLI	RIBOKINASE	ESCHERICHIA COLI	200-239								
PRBTR_KLEAE	RIBITOL (RBT) OPERON REPRESSOR	KLEBSIELLA AEROGENES	6-47								
PRCSA_ECOLI	BIOSYNTHESIS ACTIVATION PROTEIN A	ESCHERICHIA COLI	170-197								
PRCSA_ERWAM	BIOSYNTHESIS ACTIVATION PROTEIN A	ERWINIA AMYLOVORA	92-119	174-201							
PRCSA_ERWST	BIOSYNTHESIS ACTIVATION PROTEIN A	ERWINIA STEWARTII	174-201								
PRCSA_KLEAE	BIOSYNTHESIS ACTIVATION PROTEIN A	KLEBSIELLA AEROGENES	168-205								
PRCSB_ECOLI	CAPSULE SYNTHESIS B COMPONENT	ESCHERICHIA COLI	14-41	159-186							
PRECI_LEGPN	RECA PROTEIN	LEGIONELLA PNEUMOPHILA	262-310								
PRECA_ACHLA	RECA PROTEIN	ACHOLEPLASMA LAIDLAWII	283-310								
PRECA_AGRTU	RECA PROTEIN	AGROBACTERIUM TUMEFACIENS	3-30	132-159	281-308						
PRECA_ANAVA	RECA PROTEIN	ANABAENA VARIABILIS	322-349								
PRECA_AQUPY	RECA PROTEIN	AQUIFEX PYROPHILUS	63-90	126-153							
PRECA_BACFR	RECA PROTEIN	BACTEROIDES FRAGILIS	108-135								
PRECA_BACSU	RECE PROTEIN	BACILLUS SUBTILIS	267-294								
PRECA_BRUAB	RECA PROTEIN	BRUCELLA ABORTUS	3-30	132-159	280-307						
PRECA_BURCE	RECA PROTEIN	BURKHOLDERIA CEPACIA	75-109								
PRECA_ERWCA	RECA PROTEIN	ERWINIA CAROTOVORA	284-311								
PRECA_LACDE	RECA PROTEIN	LACTOBACILLUS DELBRUECKII	20-47								
PRECA_LACHE	RECA PROTEIN	LACTOBACILLUS HELVETICUS	20-47								
PRECA_LACLA	RECA PROTEIN	LACTOCOCCUS LACTIS	135-162	232-269	288-315						
PRECA_METCL	RECA PROTEIN	METHYLOMONAS CLARA	266-303								
PRECA_METFL	RECA PROTEIN	METHYLOBACILLUS FLAGELLATUM	276-303								
PRECA_MYCPU	RECA PROTEIN	MYCOPLASMA PULMONIS	30-57								
PRECA_MYCTU	RECA PROTEIN	MYCOBACTERIUM TUBERCULOSIS	749-776								
PRECA_NEIGO	RECA PROTEIN	NEISSERIA GONORRHOEAE	283-310								
PRECA_PROMI	RECA PROTEIN	PROTEUS MIRABILIS	283-310								
PRECA_PSEAE	RECA PROTEIN	PSEUDOMONAS AERUGINOSA	282-309								
PRECA_RHILP	RECA PROTEIN	RHIZOBIUM LEGUMINOSARUM	3-30	131-158	280-307						
PRECA_RHILV	RECA PROTEIN	RHIZOBIUM LEGUMINOSARUM	119-146	268-295							
PRECA_RHIME	RECA PROTEIN	RHIZOBIUM MELILOTI	119-146	268-295							
PRECA_RHOSH	RECA PROTEIN	RHODOBACTER SPHAEROIDES	119-146								
PRECA_STRPN	RECA PROTEIN	STREPTOCOCCUS PNEUMONIAE	134-161	293-327							
PRECA_SYNP2	RECA PROTEIN	SYNECHOCOCCUS SP	124-151								
PRECA_VIBCH	RECA PROTEIN	VIBRIO CHOLERAE	290-317								
PRECF_BACSU	RECF PROTEIN	BACILLUS SUBTILIS	4-31	178-205							
PRECF_ECOLI	RECF PROTEIN	ESCHERICHIA COLI	82-109	147-174							
PRECF_PROMI	RECF PROTEIN	PROTEUS MIRABILIS	86-113								
PRECF_PSEPU	RECF PROTEIN	PSEUDOMONAS PUTIDA	84-111								
PRECF_SALTY	RECF PROTEIN	SALMONELLA TYPHIMURIUM	147-174								
PRECJ_ECOLI	EXONUCLEASE RECJ	ESCHERICHIA COLI	52-79								
PRECN_BACSU	RECOMBINATION PROTEIN	BACILLUS SUBTILIS	21-48	156-184	192-247	299-336	344-378				
PRECQ_ECOLI	DNA HELICASE RECQ	ESCHERICHIA COLI	468-495								
PRELA_ECOLI	GTP PYROPHOSPHOKINASE	ESCHERICHIA COLI	680-707								
PREMA_BACSU	REPLICATION AND MAINTENANCE PROTEIN	BACILLUS SUBTILIS	2-36	81-108							
PREMA_STAAU	REPLICATION AND MAINTENANCE PROTEIN	STAPHYLOCOCCUS AUREUS	2-36	81-108							

PEGENE	107x1784	Prokaryotic Sequences									
FILENAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PREMA_STAEP	REPLICATION AND MAINTENANCE PROTEIN	STAPHYLOCOCCUS EPIDERMIDIS	2-36	81-108							
PREP1_ECOLI	REPLICATION PROTEIN REPA	ESCHERICHIA COLI	50-77	90-117							
PREPA_BACSU	REPA PROTEIN	BACILLUS SUBTILIS	342-373								
PREPA_ECOLI	REPA PROTEIN	ESCHERICHIA COLI	91-118	228-255							
PREPA_NEIGO	REPLICATION PROTEIN	NEISSERIA GONORRHOEAE	57-84	138-172							
PREPB_LACPL	REPLICATION PROTEIN REPB	LACTOBACILLUS PLANTARUM	184-211								
PREPM_STAAU	REPLICATION INITIATION PROTEIN	STAPHYLOCOCCUS AUREUS	254-284								
PREPN_STAAU	REPLICATION INITIATION PROTEIN	STAPHYLOCOCCUS AUREUS	258-285								
PREPR_STRAG	REPR PROTEIN	STREPTOCOCCUS AGALACTIAE	430-467								
PREPS_STRPY	REPS PROTEIN	STREPTOCOCCUS PYOGENES	423-467								
PREPX_STAAU	REP PROTEIN	STAPHYLOCOCCUS AUREUS	111-150	173-210							
PREPY_ECOLI	REPLICATION INITIATION PROTEIN	ESCHERICHIA COLI	288-315								
PREP_CLOPE	REPLICATION PROTEIN	CLOSTRIDIUM PERFRINGENS	168-195	297-324	343-375						
PREP_ECOLI	REP HELICASE	ESCHERICHIA COLI	119-146	205-243							
PREP_LACPL	REP PROTEIN	LACTOBACILLUS PLANTARUM	119-199	260-287							
PRESP_CLOPE	RESOLVASE	CLOSTRIDIUM PERFRINGENS	68-102	131-185							
PRF1_BACSU	PROBABLE PEPTIDE CHAIN RELEASE FACTOR 2	BACILLUS SUBTILIS	34-68								
PRF1_ECOLI	PEPTIDE CHAIN RELEASE FACTOR 1	ESCHERICHIA COLI	86-113	183-284							
PRF2_SALTY	PEPTIDE CHAIN RELEASE FACTOR 2	SALMONELLA TYPHIMURIUM	86-113	183-284							
PRF3_ECOLI	PEPTIDE CHAIN RELEASE FACTOR 3	ESCHERICHIA COLI	180-210	443-473							
PRFAB_ECOLI	1,4-GALACTOSYLTRANSFERASE	ESCHERICHIA COLI	199-228								
PRFAG_ECOLI	BIOSYNTHESIS PROTEIN RFAG	ESCHERICHIA COLI	316-360								
PRFAJ_ECOLI	1,2-GLUCOSYLTRANSFERASE	ESCHERICHIA COLI	185-212								
PRFAJ_SALTY	1,2-GLUCOSYLTRANSFERASE	SALMONELLA TYPHIMURIUM	39-66	233-268							
PRFAK_SALTY	1,3-N-ACETYLGLUCOSAMINETRANSFERASE	SALMONELLA TYPHIMURIUM	68-95	145-172	236-263						
PRFAL_SALTY	O-ANTIGEN LIGASE	SALMONELLA TYPHIMURIUM	335-369								
PRFAL_SALTY	O-ANTIGEN LIGASE	ESCHERICHIA COLI	366-393								
PRFAP_ECOLI	BIOSYNTHESIS PROTEIN RFAP	SALMONELLA TYPHIMURIUM	316-360								
PRFAS_ECOLI	BIOSYNTHESIS PROTEIN RFAS	ESCHERICHIA COLI	8-35								
PRFAY_ECOLI	BIOSYNTHESIS PROTEIN RFAY	ESCHERICHIA COLI	39-66	233-268							
PRFAZ_ECOLI	BIOSYNTHESIS PROTEIN RFAZ	ESCHERICHIA COLI	67-89	184-240							
PRFBB_SALTY	DTDP-GLUCOSE 4,6-DEHYDRATASE	SALMONELLA TYPHIMURIUM	3-30	85-112							
PRFBM_SALTY	MANNOSE-1-PHOSPHATE GUANYLYLTRANSFERASE	SALMONELLA TYPHIMURIUM	320-359								
PRFBS_SALTI	PARATOSE SYNTHASE	SALMONELLA TYPHI	313-361								
PRFEA_VIBAN	PRECURSOR FOR FERRIC ANGUIBACTIN	VIBRIO ANGUILLARUM	22-56	205-232							
PRFH_ECOLI	PEPTIDE CHAIN RELEASE FACTOR HOMOLOG	ESCHERICHIA COLI	340-376								
PRGI2_BACTU	PUTATIVE GI2 SITE-SPECIFIC RECOMBINASE	BACILLUS THURINGIENSIS	83-110								
PRHAB_ECOLI	RHAMNULOKINASE	ESCHERICHIA COLI	15-48	190-262	310-383						
PRHAB_SALTY	RHAMNULOKINASE	SALMONELLA TYPHIMURIUM	175-202								
PRHAR_ECOLI	L-RHAMNOSE OPERON TRANSACTIVATOR	ESCHERICHIA COLI	175-202								
PRHAS_ECOLI	L-RHAMNOSE OPERON REG PROTEIN RHAS	ESCHERICHIA COLI	10-41								
PRHIR_RHILV	RHIR REGULATORY PROTEIN	RHIZOBIUM LEGUMINOSARUM	153-179								
PRHLB_ECOLI	RNA HELICASE RHLB/SRMA	ESCHERICHIA COLI	206-233								
PRHO_BORBU	TRANS TERM FACTOR RHO	BORRELIA BURGDORFERI	138-165								
PRHPR_BACSU	PROTEASE PROD REG PROTEIN HPR	BACILLUS SUBTILIS	215-242	327-369							
PRHSA_ECOLI	RHSA PROTEIN PRECURSOR	ESCHERICHIA COLI	82-109								
PRHSB_ECOLI	RHSB PROTEIN PRECURSOR	ESCHERICHIA COLI	661-694								
PRHSC_ECOLI	RHSC PROTEIN PRECURSOR	ESCHERICHIA COLI	667-694								
PRHSD_ECOLI	RHSD PROTEIN PRECURSOR	ESCHERICHIA COLI	380-414	667-694	1036-1083						
PRHSE_ECOLI	RHSE PROTEIN	ESCHERICHIA COLI	671-712	1071-1098							
PRJN1_ECOLI	ACETYLTRANSFERASE	ESCHERICHIA COLI	345-372								
PRJN2_ECOLI	RIBONUCLEOSIDE DIPHOSPHATE REDUCTASE	ESCHERICHIA COLI	93-127								
PRJSA_PHOLE	RIBOFLAVIN SYNTHASE ALPHA CHAIN	PHOTOBACTERIUM LEIOGNATHI	167-194								
PRJSB_BACSU	RIBOFLAVIN SYNTHASE BETA CHAIN	BACILLUS SUBTILIS	2-47	131-158							
PRJSB_PHOLE	RIBOFLAVIN SYNTHASE BETA CHAIN	PHOTOBACTERIUM LEIOGNATHI	8-35								
PRL10_STRAT	50S RIBOSOMAL PROTEIN L10	STREPTOMYCES ANTIBIOTICUS	14-41								
PRL12_SYNY3	50S RIBOSOMAL PROTEIN L12	SYNECHOCYSTIS SP	2-34	108-133							

PGENE	107a17b4	Prokaryote Sequences								
FILE NAME	PROTEIN	ORGANISM	AREA1	AREA1	AREA2	AREA1	AREA1	AREA1	AREA1	AREA2
PRL12_THEMA	50S RIBOSOMAL PROTEIN L12	THERMOTOGA MARITIMA	8-35	56-86						
PRL14_BACST	50S RIBOSOMAL PROTEIN L14	BACILLUS STEAROTHERMOPHILUS	18-45							
PRL14_MICLU	50S RIBOSOMAL PROTEIN L14	MICROCOCCUS LUTEUS	18-45							
PRL14_MYCCA	50S RIBOSOMAL PROTEIN L14	MYCOPLASMA CAPRICOLUM	51-93							
PRL15_BACLI	50S RIBOSOMAL PROTEIN L15	BACILLUS LICHENIFORMIS	21-48							
PRL15_BACST	50S RIBOSOMAL PROTEIN L15	BACILLUS STEAROTHERMOPHILUS	93-134							
PRL15_BACSU	50S RIBOSOMAL PROTEIN L15	BACILLUS SUBTILIS	93-122							
PRL15_CHLTR	50S RIBOSOMAL PROTEIN L15	CHLAMYDIA TRACHOMATIS	110-144							
PRL15_ECOLI	50S RIBOSOMAL PROTEIN L15	ESCHERICHIA COLI	79-113							
PRL15_LACLA	50S RIBOSOMAL PROTEIN L15	LACTOCOCCUS LACTIS	8-35							
PRL17_METVA	50S RIBOSOMAL PROTEIN L17	METHANOCOCCUS VANNIELII	68-102							
PRL13_MYCCA	50S RIBOSOMAL PROTEIN L13	MYCOPLASMA CAPRICOLUM	67-135							
PRL18_BACST	50S RIBOSOMAL PROTEIN L18	BACILLUS STEAROTHERMOPHILUS	31-58							
PRL18_CHLTR	50S RIBOSOMAL PROTEIN L18	CHLAMYDIA TRACHOMATIS	32-86							
PRL18_HALMA	50S RIBOSOMAL PROTEIN L18	HALOARCULA MARISMORTUI	80-107							
PRL18_MYCCA	50S RIBOSOMAL PROTEIN L18	MYCOPLASMA CAPRICOLUM	61-88							
PRL19_ECOLI	50S RIBOSOMAL PROTEIN L19	ESCHERICHIA COLI	23-52							
PRL19_HALMA	50S RIBOSOMAL PROTEIN L19	HALOARCULA MARISMORTUI	101-128							
PRL19_METVA	PROBABLE 50S RIBOSOMAL PROTEIN	METHANOCOCCUS VANNIELII	45-72							
PRL1_PROVU	50S RIBOSOMAL PROTEIN L1	PROTEUS VULGARIS	156-194							
PRL1_SULSO	50S RIBOSOMAL PROTEIN L1	SULFOLOBUS SOLFATARICUS	5-32	184-211						
PRL20_ECOLI	50S RIBOSOMAL PROTEIN L20	ESCHERICHIA COLI	14-41							
PRL20_MYCPE	50S RIBOSOMAL PROTEIN L20	MYCOPLASMA FERMENTANS	14-41							
PRL21_BACSU	50S RIBOSOMAL PROTEIN L21	BACILLUS SUBTILIS	4-38							
PRL22_ECOLI	50S RIBOSOMAL PROTEIN L22	ESCHERICHIA COLI	28-55							
PRL23_METVA	50S RIBOSOMAL PROTEIN L23	METHANOCOCCUS VANNIELII	30-57							
PRL23_MYCCA	50S RIBOSOMAL PROTEIN L23	MYCOPLASMA CAPRICOLUM	32-59							
PRL24_HALMA	50S RIBOSOMAL PROTEIN L24	HALOARCULA MARISMORTUI	48-75							
PRL24_METVA	50S RIBOSOMAL PROTEIN L24	METHANOCOCCUS VANNIELII	61-90							
PRL24_MICLU	50S RIBOSOMAL PROTEIN L24	MICROCOCCUS LUTEUS	36-63							
PRL39_CHLTR	50S RIBOSOMAL PROTEIN L39	CHLAMYDIA TRACHOMATIS	19-46							
PRL39_ECOLI	50S RIBOSOMAL PROTEIN L39	ESCHERICHIA COLI	35-63							
PRL39_MYCCA	50S RIBOSOMAL PROTEIN L39	MYCOPLASMA CAPRICOLUM	39-85							
PRL4_BACST	50S RIBOSOMAL PROTEIN L4	BACILLUS STEAROTHERMOPHILUS	141-168							
PRL4_MYCCA	50S RIBOSOMAL PROTEIN L4	MYCOPLASMA CAPRICOLUM	144-198							
PRL3_THETH	50S RIBOSOMAL PROTEIN L3	THERMUS AQUATICUS	28-65							
PRL6_BACST	50S RIBOSOMAL PROTEIN L6	BACILLUS STEAROTHERMOPHILUS	79-106							
PRL6_ECOLI	50S RIBOSOMAL PROTEIN L6	ESCHERICHIA COLI	19-46							
PRL6_METVA	50S RIBOSOMAL PROTEIN L6	METHANOCOCCUS VANNIELII	126-159							
PRL9_BACST	50S RIBOSOMAL PROTEIN L9	BACILLUS STEAROTHERMOPHILUS	43-77							
PRL9_ECOLI	50S RIBOSOMAL PROTEIN L9	ESCHERICHIA COLI	122-149							
PRLA0_HALLA	ACIDIC RIBOSOMAL PROTEIN P0 HOMOLOG	HALOBACTERIUM CUTIRUBRUM	138-182							
PRLA0_HALMA	ACIDIC RIBOSOMAL PROTEIN P0 HOMOLOG	HALOBACTERIUM HALOBIUM	138-182							
PRLA0_HALMA	ACIDIC RIBOSOMAL PROTEIN P0 HOMOLOG	HALOARCULA MARISMORTUI	64-91	153-184						
PRLA0_METVA	ACIDIC RIBOSOMAL PROTEIN P0 HOMOLOG	METHANOCOCCUS VANNIELII	184-221							
PRLA_HALEU	RIBOSOMAL PROTEIN 'A'	HALOPHILIC EUBACTERIUM NRCC 41227	59-86							
PRLA_HALLA	50S RIBOSOMAL PROTEIN L10	HALOBACTERIUM HALOBIUM	2-29							
PRLA_HALMA	50S RIBOSOMAL PROTEIN L10	HALOARCULA MARISMORTUI	2-29							
PRLA_METVA	RIBOSOMAL PROTEIN 'A'	METHANOCOCCUS VANNIELII	2-29							
PRLA_MICLU	50S RIBOSOMAL PROTEIN L10	MICROCOCCUS LUTEUS	55-82	90-117						
PRLX1_SALTY	43 KD RELAXATION PROTEIN	SALMONELLA TYPHIMURIUM	226-260							
PRLX1_STAAU	RLX PROTEIN	STAPHYLOCOCCUS AUREUS	3-30	102-132	177-218	266-300				
PRLX2_SALTY	32 KD RELAXATION PROTEIN	SALMONELLA TYPHIMURIUM	19-53							
PRLX2_STAAU	RLX PROTEIN	STAPHYLOCOCCUS AUREUS	3-30	102-133	261-295					
PRLX_STAAU	RLX PROTEIN	STAPHYLOCOCCUS AUREUS	3-30	146-216						
PRLX_SULSO	50S RIBOSOMAL PROTEIN LX	SULFOLOBUS SOLFATARICUS	33-62							
PRMIA_BACAM	RIBONUCLEASE P PRECURSOR	BACILLUS AMYLOLIQUEFACIENS	13-67	129-156						

PEGENE	Prokaryotic Sequences									
ENTRY NAME	PROTEIN	ORGANISM	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8
PRNC_ECOLI	RIBONUCLEASE III	ESCHERICHIA COLI	10-39	117-144						
PRNE_ECOLI	RIBONUCLEASE E	ESCHERICHIA COLI	413-440	621-662						
PRNPA_BUCAP	RIBONUCLEASE P PROTEIN COMPONENT	BUCHNERA APHIDICOLA	85-114							
PRNPH_BACSU	RIBONUCLEASE PH	BACILLUS SUBTILIS	159-186							
PRNS_ECOLI	REGULATORY PROTEIN RNS	ESCHERICHIA COLI	116-160							
PRN_BACCI	RIBONUCLEASE	BACILLUS CIRCULANS	83-109							
PRN_BACTN	RIBONUCLEASE PRECURSOR	BACILLUS INTERMEDIUS	38-72							
PRPJB_BACTK	RNA POLYMERASE SIGMA-28 FACTOR PRECURSOR	BACILLUS THURINGIENSIS	73-107							
PRPJ2_CITFR	RNA POLYMERASE SIGMA-32 FACTOR	CITROBACTER FREUNDII	10-37							
PRPJ5_BACTK	RNA POLYMERASE SIGMA-35 FACTOR PRECURSOR	BACILLUS THURINGIENSIS	8-35	61-90						
PRPJ4_ALCEU	RNA POLYMERASE SIGMA-54 FACTOR	ALCALIGENES EUTROPHUS	229-266							
PRPJ4_AZOCA	RNA POLYMERASE SIGMA-54 FACTOR	AZORHIZOBIUM CAULINODANS	174-208							
PRPJ4_BACSU	RNA POLYMERASE SIGMA-54 FACTOR	BACILLUS SUBTILIS	16-43	97-124	274-308	398-423				
PRPJ4_BRAJA	RNA POLYMERASE SIGMA-54 FACTOR 1	BRADYRHIZOBIUM JAPONICUM	69-130							
PRPJ4_KLEPN	RNA POLYMERASE SIGMA-54 FACTOR	KLEBSIELLA PNEUMONIAE	148-182							
PRPJ4_RHOCA	RNA POLYMERASE SIGMA-54 FACTOR	RHODOBACTER CAPSULATUS	153-185							
PRPJ5_BRAJA	RNA POLYMERASE SIGMA-54 FACTOR 2	BRADYRHIZOBIUM JAPONICUM	145-172							
PRPJH_ALCEU	PROBABLE SIGMA(54) MODULATION PROTEIN	ALCALIGENES EUTROPHUS	21-51							
PRPJH_ECOLI	PROBABLE SIGMA(54) MODULATION PROTEIN	ESCHERICHIA COLI	21-67							
PRPJN_SALTY	PROBABLE SIGMA(54) MODULATION PROTEIN	SALMONELLA TYPHIMURIUM	21-67							
PRPJO_BUCAP	RNA POLYMERASE SIGMA-70 FACTOR	BUCHNERA APHIDICOLA	69-96	109-136	173-217	228-253	307-337			
PRPJ0_CHLTR	RNA POLYMERASE SIGMA-70 FACTOR	CHLAMYDIA TRACHOMATIS	3-32							
PRPJ0_ECOLI	RNA POLYMERASE SIGMA-70 FACTOR	ESCHERICHIA COLI	327-361							
PRPJ0_PSEAE	RNA POLYMERASE SIGMA-70 FACTOR	PSEUDOMONAS AERUGINOSA	334-368							
PRPJ0_RICPR	RNA POLYMERASE SIGMA-70 FACTOR	RICKETTSIA PROWAZEKII	244-321	348-382						
PRPJ0_MYCXA	RNA POLYMERASE SIGMA-80 FACTOR	MYXOCOCCUS XANTHUS	208-235	318-347	359-386					
PRFCF_SYNPY	BILIN BIOSYNTHESIS PROTEIN RFCF	SYNECHOCOCCUS SP	180-207							
PRPOA_BACSU	DNA-DIRECTED RNA POLYMERASE ALPHA CHAIN	BACILLUS SUBTILIS	55-107							
PRPOA_ECOLI	A-DIRECTED RNA POLYMERASE ALPHA CHAIN	ESCHERICHIA COLI &	57-105							
		SALMONELLA TYPHIMURIUM								
PRPOA_HALHA	DNA-DIRECTED RNA POLYMERASE SUBUNIT A	HALOBACTERIUM HALOBIUM	863-904							
PRPOA_HALMO	A-DIRECTED RNA POLYMERASE SUBUNIT A	HALOCOCCUS MORRUAE	228-270							
PRPOA_METTH	DNA-DIRECTED RNA POLYMERASE SUBUNIT A	METHANOBACTERIUM THERMOAUTOTROPHICU	219-245	486-513	642-669					
PRPOA_SULAC	DNA-DIRECTED RNA POLYMERASE SUBUNIT A	SULFOLOBUS ACIDOCALDARIUS	222-256	500-527	693-720					
PRPOA_THECE	DNA-DIRECTED RNA POLYMERASE SUBUNIT A'	THERMOCOCCUS CELER	228-262							
PRPOB_ECOLI	DNA-DIRECTED RNA POLYMERASE BETA CHAIN	ESCHERICHIA COLI	599-626	1011-1038						
PRPOB_MYCLE	DNA-DIRECTED RNA POLYMERASE BETA CHAIN	MYCOBACTERIUM LEPRAE	723-760	1084-1111						
PRPOB_SALTY	A-DIRECTED RNA POLYMERASE BETA CHAIN	SALMONELLA TYPHIMURIUM	599-626	956-983	1011-1038					
PRPOB_SULAC	A-DIRECTED RNA POLYMERASE SUBUNIT B	SULFOLOBUS ACIDOCALDARIUS	600-187	255-282	334-361	827-861				
PRPOB_THEMA	A-DIRECTED RNA POLYMERASE BETA CHAIN	THERMOTOGA MARITIMA	350-377							
PRPOC_ANASP	DNA-DIRECTED RNA POLYMERASE GAMMA CHAIN	ANABAENA SP	132-194							
PRPOC_ECOLI	DNA-DIRECTED RNA POLYMERASE BETA' CHAIN	ESCHERICHIA COLI	786-813	948-974	1123-1157					
PRPOC_HALHA	DNA-DIRECTED RNA POLYMERASE SUBUNIT C	HALOBACTERIUM HALOBIUM	175-202							
PRPOC_HALMO	DNA-DIRECTED RNA POLYMERASE SUBUNIT C	HALOCOCCUS MORRUAE	27-54	117-144	207-234					
PRPOC_METTH	DNA-DIRECTED RNA POLYMERASE SUBUNIT C	METHANOBACTERIUM THERMOAUTOTROPHICU	98-85	272-302	327-359					
PRPOC_MYCLE	A-DIRECTED RNA POLYMERASE BETA' CHAIN	MYCOBACTERIUM LEPRAE	273-300	860-887	971-998	1131-1158				
PRPOC_NOSCO	DNA-DIRECTED RNA POLYMERASE GAMMA CHAIN	NOSTOC COMMUNE	150-192							
PRPOC_SULAC	DNA-DIRECTED RNA POLYMERASE SUBUNIT C	SULFOLOBUS ACIDOCALDARIUS	30-63	172-214	224-251					
PRPOC_THECE	DNA-DIRECTED RNA POLYMERASE SUBUNIT A'	THERMOCOCCUS CELER	21-58							
PRPOD_NOSCO	DNA-DIRECTED RNA POLYMERASE DELTA CHAIN	NOSTOC COMMUNE	72-116	402-449	539-566					
PRPOE_ECOLI	RNA POLYMERASE SIGMA-E FACTOR	ESCHERICHIA COLI	5-39							
PRPOS_ECOLI	RNA POLYMERASE SIGMA FACTOR KATF	ESCHERICHIA COLI	281-308							
PRPOU_HALHA	DNA-DIRECTED RNA POLYMERASE SUBUNIT B'	HALOBACTERIUM HALOBIUM	91-118							
PRPSA_AGRTU	RNA POLYMERASE SIGMA-A FACTOR	AGROBACTERIUM TUMEFACIENS	316-347	397-427						
PRPSA_ANASP	RNA POLYMERASE SIGMA-A FACTOR	ANABAENA SP	71-105							
PRPSA_CLOAB	RNA POLYMERASE SIGMA-A FACTOR	CLOSTRIDIUM ACETOBUTYLICUM	2-39							
PRPSA_STRAU	RNA POLYMERASE SIGMA FACTOR RPOD	STREPTOMYCES AUREOFACIENS	278-305							

PEGENE	10717844	Prokaryotic Sequences									
ENTRYNAME	PROTEIN	ORGANISM	AREA1	AREA1	AREA2	AREA4	AREA4	AREA4	AREA1	AREA8	AREA9
PRPSB_ANASP	RNA POLYMERASE SIGMA-B FACTOR	ANABAENA SP	4-31								
PRPSB_BACSU	RNA POLYMERASE SIGMA-B FACTOR	BACILLUS SUBTILIS	3-35	169-196	200-230						
PRPSB_MYXXA	RNA POLYMERASE SIGMA-B FACTOR	MYXOCOCCUS XANTHUS	47-74								
PRPSB_STIAU	RNA POLYMERASE SIGMA-B FACTOR	STIGMATELLA AURANTIACA	96-123								
PRPSC_ANASP	RNA POLYMERASE SIGMA-C FACTOR	ANABAENA SP	38-85								
PRPSD_BACSU	RNA POLYMERASE SIGMA-D FACTOR	BACILLUS SUBTILIS	192-249								
PRPSE_BACSU	RNA POLYMERASE SIGMA-E FACTOR PRECURSOR	BACILLUS SUBTILIS	63-90								
PRPSE_CLOAB	RNA POLYMERASE SIGMA-E FACTOR	CLOSTRIDIUM ACETOBUTYLICUM	14-41	116-160							
PRPSF_BACLI	RNA POLYMERASE SIGMA-F FACTOR	BACILLUS LICHENIFORMIS	4-31	191-248							
PRPSF_BACME	RNA POLYMERASE SIGMA-F FACTOR	BACILLUS MEGATERIUM	191-225								
PRPSF_BACSU	RNA POLYMERASE SIGMA-F FACTOR	BACILLUS SUBTILIS	4-31	191-248							
PRPSH_BACLI	RNA POLYMERASE SIGMA-H FACTOR	BACILLUS LICHENIFORMIS	191-218								
PRPSH_BACSU	RNA POLYMERASE SIGMA-H FACTOR	BACILLUS SUBTILIS	186-213								
PRPSK_BACSU	RNA POLYMERASE SIGMA-K FACTOR	BACILLUS SUBTILIS	75-109	189-216							
PRPSP_STAAU	RNA POLYMERASE SIGMA FACTOR PLAC	STAPHYLOCOCCUS AUREUS	19-46								
PRPSW_STRCO	RNA POLYMERASE SIGMA FACTOR WHIG	STREPTOMYCES COELICOLOR	232-273								
PRPSX_BACTK	POSSIBLE RNA POLYMERASE SIGMA-G FACTOR	BACILLUS THURINGIENSIS	33-60								
PRS10_ECOLI	30S RIBOSOMAL PROTEIN S10	ESCHERICHIA COLI	3-30								
PRS11_BACSU	30S RIBOSOMAL PROTEIN S11	BACILLUS SUBTILIS	8-42								
PRS13_BACSU	30S RIBOSOMAL PROTEIN S13	BACILLUS SUBTILIS	44-83								
PRS17_METVA	30S RIBOSOMAL PROTEIN S17	METHANOCOCCUS VANNIELII	34-73								
PRS1_ECOLI	30S RIBOSOMAL PROTEIN S1	ESCHERICHIA COLI	99-126	144-171							
PRS1_PROSP	30S RIBOSOMAL PROTEIN S1	PROVIDENCIA SP	39-66	265-292	340-376						
PRS1_RHIME	30S RIBOSOMAL PROTEIN S1	RHIZOBIUM MELILOTI	91-125	172-217							
PRS21_BACST	30S RIBOSOMAL PROTEIN S21	BACILLUS STEAROTHERMOPHILUS	1-28								
PRS3_SPICI	30S RIBOSOMAL PROTEIN S3	SPIROPLASMA CITRI	91-125								
PRS3_ACHLA	30S RIBOSOMAL PROTEIN S3	ACHOLEPLASMA LAIDLAWII	83-110								
PRS3_MYCCA	30S RIBOSOMAL PROTEIN S3	MYCOPLASMA CAPRICOLUM	77-106	136-163							
PRS4_ECOLI	30S RIBOSOMAL PROTEIN S4	ESCHERICHIA COLI	50-77								
PRS5_HALMA	30S RIBOSOMAL PROTEIN S5	HALOBACULA MARISMORTUI	160-187								
PRS5_MYCCA	30S RIBOSOMAL PROTEIN S5	MYCOPLASMA CAPRICOLUM	35-62	182-216							
PRS6_THETH	30S RIBOSOMAL PROTEIN S6	THERMUS AQUATICUS	16-43								
PRS7_METVA	30S RIBOSOMAL PROTEIN S7	METHANOCOCCUS VANNIELII	69-96								
PRS7_MYCLE	30S RIBOSOMAL PROTEIN S7	MYCOBACTERIUM LEPRAE	22-49								
PRS8_MICLU	30S RIBOSOMAL PROTEIN S8	MICROCOCCUS LUTEUS	101-130								
PRS8_MYCCA	30S RIBOSOMAL PROTEIN S8	MYCOPLASMA CAPRICOLUM	41-78								
PRSGA_ECOLI	FERRITIN LIKE PROTEIN	ESCHERICHIA COLI	80-107								
PRT67_ECOLI	RNA-DIRECTED DNA POLYMERASE	ESCHERICHIA COLI	225-268								
PSACB_BACAM	LEVANSUCRASE PRECURSOR	BACILLUS AMYLOLIQUEFACIENS	175-202	254-281							
PSACB_BACSU	LEVANSUCRASE PRECURSOR	BACILLUS SUBTILIS	175-202	254-288							
PSACB_STRMU	LEVANSUCRASE PRECURSOR	STREPTOCOCCUS MUTANS	31-45	135-159	314-369						
PSACQ_BACLI	SACQ REGULATORY FACTOR	BACILLUS LICHENIFORMIS	2-46								
PSACT_BACSU	SACPA OPERON ANTITERMINATOR	BACILLUS SUBTILIS	102-129	188-216							
PSAGP_STRPY	STREPTOCOCCAL ACID GLYCOPROTEIN	STREPTOCOCCUS PYOGENES	294-331	362-389							
PSAOX_BACSN	SARCOSINE OXIDASE	BACILLUS SP	350-377								
PSAS2_CLOBI	SPORE PROTEIN	CLOSTRIDIUM BIFERMENTANS	17-47								
PSASG_BACCE	SPORE PROTEIN GAMMA-TYPE	BACILLUS CEREUS	31-58								
PSASG_BACST	SPORE PROTEIN GAMMA-TYPE	BACILLUS STEAROTHERMOPHILUS	37-64								
PSBCC_ECOLI	EXONUCLEASE SBCC	ESCHERICHIA COLI	218-260	337-364	535-585	622-656	778-812	821-865	915-942		
PSBCD_ECOLI	EXONUCLEASE SBCD	ESCHERICHIA COLI	137-164	334-397							
PSBM_ECOLI	SBM PROTEIN	ESCHERICHIA COLI	5-32	436-470	535-580						
PSBP_BACSU	SBP PROTEIN	BACILLUS SUBTILIS	28-55								
PSCFA_STRPY	C5A PEPTIDASE PRECURSOR	STREPTOCOCCUS PYOGENES	126-160	784-811	831-880						
PSCRB_KLEPN	SUCROSE-6-PHOSPHATE HYDROLASE	KLEBSIELLA PNEUMONIAE	174-201								
PSCRD_LACLA	SUCROSE-6-PHOSPHATE HYDROLASE	LACTOCOCCUS LACTIS	182-217	334-385	395-422						
PSCRD_STRMU	SUCROSE-6-PHOSPHATE HYDROLASE	STREPTOCOCCUS MUTANS	333-362								
PSCRK_SALTN	FRUCTOKINASE	SALMONELLA THOMPSON	97-124								

PCGENE	10/21/94	Prokaryotic Sequences									
FILENAME	PROTEIN	ORGANISM	AREA1	AREA1	AREA2	AREA1	AREA1	AREA4	AREA3	AREA1	AREA2
P5CRK_SALTY	FRUCTOKINASE	SALMONELLA TYPHIMURIUM	183-210								
P5CRY_KLEPN	SUCROSE PORIN PRECURSOR	KLEBSIELLA PNEUMONIAE	61-88	240-267							
P5CRY_SALTY	SUCROSE PORIN PRECURSOR	SALMONELLA TYPHIMURIUM	16-54	61-88	240-267						
P5ECA_BACSU	PREPROTEIN TRANSLOCASE SECA SUBUNIT	BACILLUS SUBTILIS	12-39	226-260							
P5ECA_ECOLI	PREPROTEIN TRANSLOCASE SECA SUBUNIT	ESCHERICHIA COLI	360-387	453-481							
P5ECB_ECOLI	PROTEIN-EXPORT PROTEIN SECB	ESCHERICHIA COLI	41-68								
P5ECD_ECOLI	PROTEIN-EXPORT MEMBRANE PROTEIN SECD	ESCHERICHIA COLI	46-73	378-412							
P5ECF_ECOLI	PROTEIN-EXPORT MEMBRANE PROTEIN SECF	ESCHERICHIA COLI	174-201								
P5ECY_ECOLI	PREPROTEIN TRANSLOCASE SECY SUBUNIT	ESCHERICHIA COLI	101-128								
P5ECY_LACLA	PREPROTEIN TRANSLOCASE SECY SUBUNIT	LACTOCOCCUS LACTIS	403-430								
P5ECY_METVA	PREPROTEIN TRANSLOCASE SECY SUBUNIT	METHANOCOCCUS VANNIELII	131-161	396-423							
P5ECY_STACA	PREPROTEIN TRANSLOCASE SECY SUBUNIT	STAPHYLOCOCCUS CARNOSUS	140-191								
P5EFC_SALEN	SEFC PROTEIN PRECURSOR	SALMONELLA ENTERITIDIS	133-164	475-533							
P5ERA_BACSU	D-1-PHOSPHOGLYCERATE DEHYDROGENASE	BACILLUS SUBTILIS	16-43	347-374							
P5FAA_ECOLI	S-FIMBRIAL PROTEIN SUBUNIT PRECURSOR	ESCHERICHIA COLI	11-38								
P5FSA_ECOLI	SUGAR FERMENTATION STIMULATION PROTEIN	ESCHERICHIA COLI	81-115								
P5FUA_SERMA	IRON-TRANSPORT SFUA PROTEIN PRECURSOR	SERRATIA MARCESCENS	14-41								
P5HUI_ECOLI	SHUFFLON PROTEIN A	ESCHERICHIA COLI	224-262								
P5HUJ_ECOLI	SHUFFLON PROTEIN A'	ESCHERICHIA COLI	224-262								
P5HUJ_ECOLI	SHUFFLON PROTEIN B	ESCHERICHIA COLI	224-262								
P5HU4_ECOLI	SHUFFLON PROTEIN B'	ESCHERICHIA COLI	224-262								
P5HU5_ECOLI	SHUFFLON PROTEIN C	ESCHERICHIA COLI	224-262	402-439							
P5HU6_ECOLI	SHUFFLON PROTEIN C'	ESCHERICHIA COLI	224-262								
P5HU7_ECOLI	SHUFFLON PROTEIN D	ESCHERICHIA COLI	224-262								
P5INR_BACLI	SINR PROTEIN	BACILLUS LICHENIFORMIS	9-36	41-80							
P5INR_BACSU	SINR PROTEIN	BACILLUS SUBTILIS	9-36	41-90							
P5LAP_ACEKI	CELL SURFACE PROTEIN PRECURSOR	ACETOGENIUM KIVUI	337-364	382-409	111-433	458-489	517-544	561-593	641-685	726-753	
P5LPA_ECOLI	PROPHAGE CP4-57 INTEGRASE	ESCHERICHIA COLI	91-116								
P5MF_ECOLI	SMF PROTEIN	ESCHERICHIA COLI	24-51								
P5NIPA_ECOLI	SNAIL PROTEIN A	ESCHERICHIA COLI	27-61	90-117							
P5NIP_ECOLI	SNIP PROTEIN PRECURSOR	ESCHERICHIA COLI	71-98								
P5NTB_SYNP7	TRANSCRIPTIONAL REPRESSOR SMTB	SYNECHOCOCCUS SP	62-96								
P5ODF_COXBU	SUPEROXIDE DISMUTASE	COXIELLA BURNETII	116-143								
P5ODF_ECOLI	SUPEROXIDE DISMUTASE	ESCHERICHIA COLI	115-142								
P5ODF_METTH	SUPEROXIDE DISMUTASE	METHANOBACTERIUM THERMOAUTOTROPHICU	35-52								
P5ODM_PHOLE	SUPEROXIDE DISMUTASE	PHOTOBACTERIUM LEIOGNATHI	22-63								
P5ODM_PROFR	SUPEROXIDE DISMUTASE	PROPIONIBACTERIUM FREUDENREICHII	164-191								
P5OH6_ECOLI	SOH6 PROTEIN PRECURSOR	ESCHERICHIA COLI	7-48	70-97	271-300						
P5OP8_ECOLI	SOP8 PROTEIN	ESCHERICHIA COLI	233-279								
P5OXR_ECOLI	SOXR PROTEIN	ESCHERICHIA COLI	16-63								
P5P0J_BACSU	STAGE 0 SPORULATION PROTEIN J	BACILLUS SUBTILIS	131-158								
P5P1A_BACME	STAGE II SPORULATION PROTEIN AA	BACILLUS MEGATERIUM	19-53								
P5P1A_BACSU	STAGE II SPORULATION PROTEIN AA	BACILLUS SUBTILIS	21-55								
P5P1B_BACLI	STAGE II SPORULATION PROTEIN AB	BACILLUS LICHENIFORMIS	42-69								
P5P1B_BACME	STAGE II SPORULATION PROTEIN AB	BACILLUS MEGATERIUM	26-53								
P5P1D_BACSU	STAGE II SPORULATION PROTEIN D	BACILLUS SUBTILIS	134-161								
P5P1G_BACTK	POSSIBLE ASPARTYL PROTEASE	BACILLUS THURINGIENSIS	4-36	117-144							
P5P1J_BACSU	STAGE II SPORULATION PROTEIN J	BACILLUS SUBTILIS	14-44	463-500							
P5P1D_BACSU	STAGE III SPORULATION PROTEIN D	BACILLUS SUBTILIS	9-36	52-86							
P5P1J_BACSU	STAGE III SPORULATION PROTEIN J PRECURSOR	BACILLUS SUBTILIS	44-71								
P5P4A_BACSU	STAGE IV SPORULATION PROTEIN A	BACILLUS SUBTILIS	159-180								
P5P4B_BACSU	STAGE IV SPORULATION PROTEIN B	BACILLUS SUBTILIS	39-66								
P5P4G_BACSU	STAGE IV SPORULATION PROTEIN FB	BACILLUS SUBTILIS	251-278								
P5P5A_BACSU	STAGE V SPORULATION PROTEIN AF	BACILLUS SUBTILIS	9-36								
P5PAA_STRDO	ANTIGEN I	STREPTOCOCCUS DOWNEI	184-218								
P5PAB_BACSU	SUBTILIN BIOSYNTHESIS 117 KD PROTEIN	BACILLUS SUBTILIS	181-208								
P5PAC_BACSU	SUBTILIN BIOSYNTHESIS PROTEIN SPAC	BACILLUS SUBTILIS	311-338								

PCGENE	1107117bd	Prokaryotic Sequences	AREA1	AREA2	AREA3	AREA1	AREA1	AREA1	AREA2	AREA1	AREA2
FILENAME	PROTEIN	ORGANISM	90-107	224-251	290-324						
PSPAS_BACSU	SIGNAL PROTEIN SPAX	BACILLUS SUBTILIS	122-276	281-465	538-565	576-630	1071-1098	1135-1182	1177-1230		
PSPAS_STRMU	CELL SURFACE ANTIGEN I/II PRECURSOR	STREPTOCOCCUS MUTANS	4-31	172-199							
PSPAB_BACSU	REGULATORY PROTEIN	BACILLUS SUBTILIS	55-82	226-267							
PSPAT_BACSU	SUBTILIN TRANSPORT PROTEIN SPAT	BACILLUS SUBTILIS	12-39								
PSPEC_STRPY	EXOTOXIN TYPE C PRECURSOR	STREPTOCOCCUS PYOGENES	82-109	155-182							
PSPIR_SPICI	SPIRALIN	SPIROPLASMA CITRI	195-222								
PSPIR_SPIME	SPIRALIN	SPIROPLASMA MELLIFERUM	637-664								
PSPOT_ECOLI	GUAN-3',5'-BIS(DIPHOS)-3'-PYROPHOSPHOHYDROLA	ESCHERICHIA COLI	278-305								
PSPPA_ECOLI	PROTEASE IV	ZYMOMONAS MOBILIS	590-617								
PSQHC_ZYMMO	SQUALENE-HOPENE CYCLASE	BACILLUS SUBTILIS	159-186	244-271							
PSRFA_BACSU	SURFACTIN SYNTHETASE SUBUNIT A	ESCHERICHIA COLI	301-328								
PSRP1_ECOLI	SIGNAL RECOGNITION PARTICLE PROTEIN	MYCOPLASMA MYCOIDES	21-45	107-141	394-428						
PSRP1_MYCMY	SIGNAL RECOGNITION PARTICLE PROTEIN	PASTEURELLA HAEMOLYTICA	151-178	358-385	465-518	520-570	860-904				
PSSA1_PASHA	SEROTYPE-SPECIFIC ANTIGEN 1 PRECURSOR	STREPTOCOCCUS PARASANGUIS	32-59								
PSSAB_STRPA	ADHESIN B PRECURSOR	STREPTOCOCCUS SANGUIS	21-59	101-128							
PSSAB_STRSA	ADHESIN B PRECURSOR	ESCHERICHIA COLI	68-95								
PSSB_ECOLI	SINGLE-STRAND BINDING PROTEIN	PROTEUS MIRABILIS	63-104								
PSSB_PROMI	SINGLE-STRAND BINDING PROTEIN	SERRATIA MARCESCENS	63-104								
PSSB_SERMA	SINGLE-STRAND BINDING PROTEIN	STREPTOCOCCUS SANGUIS	131-173	178-217	295-483	565-592	676-710	1081-1131			
PSSP5_STRSA	AGGLUTININ RECEPTOR PRECURSOR	STREPTOMYCES AVIDINII	125-152								
PSTAV_STRAV	STREPTAVIDIN PRECURSOR	ESCHERICHIA COLI	66-93								
PSTA_ECOLI	STREPTOTHRICIN ACETYLTRANSFERASE	STAPHYLOCOCCUS AUREUS	90-119	172-199	280-311						
PSTC1_STAAU	STAPHYLOCOAGULASE PRECURSOR	STAPHYLOCOCCUS AUREUS	90-117	264-291							
PSTC2_STAAU	STAPHYLOCOAGULASE PRECURSOR	CLOSTRIDIUM BEIJERINCKII	47-74								
PSTC_CLOBE	L-TRANSD TRANSC CONTROL PROTEIN	ESCHERICHIA COLI	36-63								
PSTPA_ECOLI	STPA PROTEIN	STREPTOMYCES GRISEUS	183-210								
PSTRI_STRGR	INOSAMINE-PHOSPHATE AMIDINOTRANSFERASE I	STREPTOCOCCUS EQUISIMILIS	209-236	281-308							
PSTRP_STREQ	STREPTOKINASE C PRECURSOR	STREPTOCOCCUS PYOGENES	209-236								
PSTRP_STRPY	STREPTOKINASE A PRECURSOR	STREPTOCOCCUS SP	209-236	281-308							
PSTRP_STR3P	STREPTOKINASE G PRECURSOR	BACILLUS SUBTILIS	415-462	522-563	603-639						
PSUBE_BACSU	MINOR EXTRACELLULAR PROTEASE EPA PREC	BACILLUS SUBTILIS	40-67	139-176	121-168	534-597					
PSUBF_BACSU	BACILLOPEPTIDASE F PRECURSOR	SALMONELLA TYPHIMURIUM	137-74								
PSUBI_SALTY	SULFATE-BINDING PROTEIN PRECURSOR	SYNECHOCYSTIS SP	61-04								
PSUBI_SYNP7	SULFATE-BINDING PROTEIN PRECURSOR	SYNECHOCYSTIS SP	64-91								
PSUBI_SYNY3	SULFATE-BINDING PROTEIN PRECURSOR	BACILLUS LICHENIFORMIS	191-222								
PSUBT_BACLI	SUBTILISIN CARLSBERG PRECURSOR	BACILLUS MESENTERICUS	91-118								
PSUBT_BACM5	SUBTILISIN	BACILLUS SP	36-63	250-277							
PSUBT_BACS9	SUBTILISIN PRECURSOR	BACILLUS SUBTILIS	197-224								
PSUBT_BACSA	SUBTILISIN AMYLOSACCHARITICUS PRECURSOR	BACILLUS SUBTILIS	86-117								
PSUBT_BACSD	SUBTILISIN	BACILLUS STEAROTHERMOPHILUS	197-224								
PSUBT_BACST	SUBTILISIN J PRECURSOR	BACILLUS SUBTILIS	197-224								
PSUBT_BACSU	SUBTILISIN E PRECURSOR	BACILLUS SUBTILIS	33-108	613-654	741-768						
PSUBV_BACSU	MINOR EXTRACELLULAR PROTEASE VPR PRECUR	BACILLUS SUBTILIS	62-89								
PSUCC_ECOLI	SUCCINYL-COA SYNTHETASE BETA	ESCHERICHIA COLI	449-476								
PSUCP_AGRVI	SUCROSE PHOSPHORYLASE	AGROBACTERIUM VITIS	112-139								
PSULA_ENTAE	CELL DIVISION INHIBITOR	ENTEROBACTER AEROGENES	237-287	725-753	790-821						
PSYA_ECOLI	ALANYL-TRNA SYNTHETASE	ESCHERICHIA COLI	330-357								
PSYD_ECOLI	ASPARTYL-TRNA SYNTHETASE	BACILLUS STEAROTHERMOPHILUS	48-76								
PSYE_BACST	GLUTAMYL-TRNA SYNTHETASE	BACILLUS SUBTILIS	49-76	351-386							
PSYE_BACSU	GLUTAMYL-TRNA SYNTHETASE	THERMUS AQUATICUS	401-432								
PSYE_THETH	GLUTAMYL-TRNA SYNTHETASE	ESCHERICHIA COLI	7-34								
PSYFA_BACSU	PHENYLALANYL-TRNA SYNTHETASE A CHAIN	BACILLUS SUBTILIS	340-367	407-441							
PSYFB_BACSU	PHENYLALANYL-TRNA SYNTHETASE BETA CHAIN	ESCHERICHIA COLI	546-573	607-634	744-771						
PSYFB_ECOLI	PHENYLALANYL-TRNA SYNTHETASE BETA CHAIN	ESCHERICHIA COLI	354-381	487-514							
PSYGB_ECOLI	GLYCYL-TRNA SYNTHETASE BETA CHAIN	STREPTOCOCCUS EQUISIMILIS	376-403								
PSYH_STREQ	HISTIDYL-TRNA SYNTHETASE	METHANOBACTERIUM THERMOAUTOTROPHICU	1010-1037								
PSYI_METTH	ISOLEUCYL-TRNA SYNTHETASE										

PCGENE	107117bit	Prokaryotic Sequences	AREA1	AREA1	AREA2	AREA2	AREA3	AREA3	AREA4	AREA4	AREA5	AREA5
FILENAME	PROTEIN	ORGANISM	283-310									
PSYK1_ECOLI	LYSYL-TRNA SYNTHETASE	ESCHERICHIA COLI	45-72	283-310								
PSYK2_ECOLI	LYSYL-TRNA SYNTHETASE, HEAT INDUCIBLE	ESCHERICHIA COLI	226-247									
PSYL_ECOLI	LEUCYL-TRNA SYNTHETASE	ESCHERICHIA COLI	69-99									
PSYM_BACST	METHIONYL-TRNA SYNTHETASE	BACILLUS STEAROTHERMOPHILUS	87-124									
PSYM_ECOLI	METHIONYL-TRNA SYNTHETASE	ESCHERICHIA COLI	341-368									
PSYP_ECOLI	PROLYL-TRNA SYNTHETASE	ESCHERICHIA COLI	394-421									
PSYQ_ECOLI	GLUTAMINYL-TRNA SYNTHETASE	ESCHERICHIA COLI	469-483									
PSYRD_PSESY	SYRD PROTEIN	PSEUDOMONAS SYRINGAE	540-574									
PSYR_ECOLI	ARGINYL-TRNA SYNTHETASE	ESCHERICHIA COLI	401-428	605-639								
PSYT1_BACSU	THREONYL-TRNA SYNTHETASE	BACILLUS SUBTILIS	603-630	809-843								
PSYV_BACST	VALYL-TRNA SYNTHETASE	BACILLUS STEAROTHERMOPHILUS	300-327	885-912	924-951							
PSYV_ECOLI	VALYL-TRNA SYNTHETASE	ESCHERICHIA COLI	204-231	239-266								
PSYW_BACST	TRYPTOPHANYL-TRNA SYNTHETASE	BACILLUS STEAROTHERMOPHILUS	81-115	375-409								
PSYY1_BACSU	TYROSYL-TRNA SYNTHETASE 1	BACILLUS SUBTILIS	69-96									
PSYY2_BACSU	TYROSYL-TRNA SYNTHETASE 2	BACILLUS CALDOTENAX	295-322	372-416								
PSYY_BACCA	TYROSYL-TRNA SYNTHETASE	BACILLUS STEAROTHERMOPHILUS	295-322	372-416								
PSYY_BACST	TYROSYL-TRNA SYNTHETASE	ESCHERICHIA COLI	126-167	405-433	485-512							
PT1M1_ECOLI	ENZYME ECOR124I M PROTEIN	ESCHERICHIA COLI	30-57	624-651	702-736	768-795	843-870	966-1000				
PT1R_ECOLI	ENZYME ECOR124I R PROTEIN	ESCHERICHIA COLI	158-185									
PT1R_ECOLI	ENZYME ECOK 1 R PROTEIN	ESCHERICHIA COLI	134-181									
PT1S1_ECOLI	ENZYME ECOR124I SPECIFICITY PROTEIN	ESCHERICHIA COLI	279-306									
PT1SA_ECOLI	ENZYME ECOA 1 SPECIFICITY PROTEIN	ESCHERICHIA COLI	278-312									
PT1SB_ECOLI	ENZYME ECOB 1 SPECIFICITY PROTEIN	ESCHERICHIA COLI	249-283									
PT1SD_ECOLI	ENZYME ECOD 1 SPECIFICITY PROTEIN	ESCHERICHIA COLI	279-306									
PT1SE_ECOLI	ENZYME ECOE 1 SPECIFICITY PROTEIN	ESCHERICHIA COLI	396-423									
PT1S_SALPO	ENZYME SPECIFICITY PROTEIN	SALMONELLA POTSDAM	194-221	276-304	402-429							
PT1S_SALTY	ENZYME SPECIFICITY PROTEIN	SALMONELLA TYPHIMURIUM	138-166	265-295	406-440	630-682	687-728	926-954				
PT2I1_ECOLI	TYPE II S RESTRICTION ENZYME ECO57I	ESCHERICHIA COLI	46-76									
PT2A1_ACICA	TYPE II RESTRICTION ENZYME ACCI	ACINETOBACTER CALCOACETICUS	1-43	135-233	236-280							
PT2BF_BACSU	TYPE II RESTRICTION ENZYME BSUFI	BACILLUS SUBTILIS	1-45	338-384	401-430	532-559						
PT2BR_BACSU	TYPE II RESTRICTION ENZYME CFRBI	CITROBACTER FREUNDII	33-62									
PT2C1_CITFR	TYPE II RESTRICTION ENZYME HGIC1	HERPETOSIPHON AURANTIACUS	176-215									
PT2C2_HERAU	TYPE II RESTRICTION ENZYME HGIC11	HERPETOSIPHON AURANTIACUS	203-273									
PT2D1_DESDN	TYPE II RESTRICTION ENZYME DDE1	DESULFOVIBRIO DESULFURICANS	85-122									
PT2D1_STRPN	TYPE II RESTRICTION ENZYME DPN1	STREPTOCOCCUS PNEUMONIAE	213-240									
PT2E1_ECOLI	TYPE II RESTRICTION ENZYME ECOR1	ESCHERICHIA COLI	2-29									
PT2E2_ECOLI	TYPE II RESTRICTION ENZYME ECOR1	ESCHERICHIA COLI	333-360									
PT2F1_ECOLI	TYPE II S RESTRICTION ENZYME ECORV	ESCHERICHIA COLI	138-155	214-241								
PT2F1_FLAOK	TYPE II S RESTRICTION ENZYME FOKI	FLAVOBACTERIUM OKEANOKOITES	303-336									
PT2H1_HAEIN	TYPE III RESTRICTION ENZYME HINFI	HAEMOPHILUS INFLUENZAE	6-38	69-96								
PT2H1_HAEPA	TYPE II RESTRICTION ENZYME HPAI	HAEMOPHILUS PARAINFLUENZAE	77-125									
PT2H2_HAEIA	TYPE II RESTRICTION ENZYME HIAIII	HAEMOPHILUS HAEMOLYTICUS	23-50									
PT2H2_HAEIN	TYPE II RESTRICTION ENZYME HINCII	HAEMOPHILUS INFLUENZAE	97-138									
PT2K1_KLEPN	TYPE II RESTRICTION ENZYME KPNI	KLEBSIELLA PNEUMONIAE	18-45	178-205								
PT2M1_MORBO	TYPE II RESTRICTION ENZYME MBOI	MORAXELLA BOVIS	15-41	187-213	233-252							
PT2M2_MORBO	TYPE II S RESTRICTION ENZYME MBOII	MORAXELLA BOVIS	3-30	138-183	337-364							
PT2M2_METTF	POSSIBLE TYPE II RESTRICTION ENZYME MTHZI	METHANOBACTERIUM THERMOFORMICICUM	105-151									
PT2N1_NEIGO	TYPE II RESTRICTION ENZYME NGOPII	NEISSERIA GONORRHOEAE	117-144	231-258								
PT2S1_STRSA	TYPE II RESTRICTION ENZYME SSI	STREPTOCOCCUS SANGUIS	5-32	41-68	395-446							
PT2S2_SHISO	TYPE II RESTRICTION ENZYME SSOII	SHIGELLA SONNEI	206-243	258-288								
PT2S3_STAAU	TYPE II RESTRICTION ENZYME SAUTAI	STAPHYLOCOCCUS AUREUS	76-102									
PT2S1_SALIN	TYPE II RESTRICTION ENZYME SIN	SALMONELLA INFANTIS	144-181									
PT2SM_SERMA	TYPE II RESTRICTION ENZYME SMAI	SERRATIA MARCESCENS	61-88									
PT2TA_THEAQ	TYPE II RESTRICTION ENZYME TAQI	THERMUS AQUATICUS	147-181	203-237								
PT2MO_ECOLI	SYSTEM ECOP15 ENZYME MOD	ESCHERICHIA COLI	32-71	95-102	236-296	378-405						
PT2RE_BACCE	SYSTEM ENZYME RES	BACILLUS CEREUS	62-89	256-283								

PCGENE	10fb17bb4	Prokaryotic Sequences									
FILENAME	PROTEIN	ORGANISM	AREA1	AREA1	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PTA47_TREPA	47 KD MEMBRANE ANTIGEN PRECURSOR	TREPONEMA PALLIDUM	24-53								
PTA47_TREDE	53 KD MEMBRANE ANTIGEN A PRECURSOR	TREPONEMA DENTICOLA	99-126	298-339							
PTA53_TREDE	53 KD MEMBRANE ANTIGEN A PRECURSOR	TREPONEMA DENTICOLA	372-392	374-401							
PTACY_BACAL	ALVEOLYSIN PRECURSOR	BACILLUS ALVEI	298-311	372-434							
PTACY_CLOPE	PERFRINGOLYSIN O PRECURSOR	CLOSTRIDIUM PERFRINGENS	93-120	183-195	396-421						
PTACY_LISIV	IVANOLYSIN PRECURSOR	LISTERIA IVANOVII	98-125	168-196	295-329	397-424					
PTACY_LISMO	LISTERIOLYSIN O PRECURSOR	LISTERIA MONOCYTOGENES	99-126	296-323	349-376	398-463					
PTACY_LISSE	SEELIGERIOLYSIN PRECURSOR	LISTERIA SEELIGERI	334-272								
PTACY_STRPN	PNEUMOLYSIN	STREPTOCOCCUS PNEUMONIAE	186-133	335-382	440-470						
PTACY_STRPY	STREPTOLYSIN O PRECURSOR	STREPTOCOCCUS PYOGENES	42-69								
PTACB_BACSU	TECHOIC ACID BIOSYN PROTEIN B PREC	BACILLUS SUBTILIS	348-375								
PTACC_BACSU	TECHOIC ACID BIOSYNTHESIS PROTEIN C	BACILLUS SUBTILIS	59-93	144-181	185-243	565-592	600-627				
PTACE_BACSU	TECHOIC ACID BIOSYNTHESIS PROTEIN E	BACILLUS SUBTILIS	182-209								
PTACF_BACSU	TECHOIC ACID BIOSYNTHESIS PROTEIN F	BACILLUS SUBTILIS	59-93	137-164	398-425	810-841					
PTBP1_NEIGO	TRANSFERRIN-BINDING PROTEIN 1 PRECURSOR	NEISSERIA GONORRHOEAE	18-45	223-234	373-402						
PTBUD_PSEPI	PHENOL 2-MONOOXYGENASE	PSEUDOMONAS PICKETTII	105-132								
PTCDT_SALTY	TRANSCRIPTIONAL REGULATORY PROTEIN TCDT	SALMONELLA TYPHIMURIUM	20-47	83-128	199-233	263-290	344-375	439-466			
PTCPC_VIBCH	MEMBRANE PROTEIN TCPC PRECURSOR	VIBRIO CHOLERAE	24-59	77-111							
PTCPE_VIBCH	TCP PILUS BIOSYNTHESIS PROTEIN TCPE	VIBRIO CHOLERAE	172-66	211-238							
PTCPF_VIBCH	TCP PILUS SECRETION PROTEIN TCPF	VIBRIO CHOLERAE	93-122								
PTCPH_VIBCH	TCP PILUS BIOSYNTHESIS PROTEIN TCPH	VIBRIO CHOLERAE	25-52	234-261	278-306	346-379					
PTCPI_VIBCH	TCP PILUS BIOSYNTHESIS PROTEIN TCPI	VIBRIO CHOLERAE	48-75								
PTCPN_VIBCH	TCP PILUS VIRULENCE REGULATORY PROTEIN	VIBRIO CHOLERAE	220-257								
PTCPO_VIBCH	TCP PILUS BIOSYNTHESIS PROTEIN TCPO	VIBRIO CHOLERAE	121-148								
PTCPY_VIBCH	TCP PILUS BIOSYNTHESIS PROTEIN TCPY	VIBRIO CHOLERAE	44-83								
PTCR2_VIBCH	TCP PILUS BIOSYNTHESIS PROTEIN TCP2	VIBRIO CHOLERAE	93-122	404-434							
PTCRJ_BACSU	TETRACYCLINE RESISTANCE PROTEIN J	BACILLUS STEAROTHERMOPHILUS	422-453								
PTCR_BACST	TETRACYCLINE RESISTANCE PROTEIN	STAPHYLOCOCCUS AUREUS	404-431								
PTCR_STAAU	TETRACYCLINE RESISTANCE PROTEIN	STREPTOCOCCUS AGALACTIAE	422-453								
PTCR_STRAG	TETRACYCLINE RESISTANCE PROTEIN	STREPTOCOCCUS PNEUMONIAE	422-453								
PTCR_STRPN	TETRACYCLINE RESISTANCE PROTEIN	ESCHERICHIA COLI	210-239								
PTDCA_ECOLI	TDCA/BC OPERON TRANSCRIPTIONAL ACTIVATOR	ESCHERICHIA COLI	324-361								
PTDCC_ECOLI	TDCC PROTEIN	STREPTOCOCCUS PYOGENES	177-164	361-393	400-437						
PTE66_STRPY	TRYPSIN-RESIST SURFACE 76 PROTEIN PREC	ESCHERICHIA COLI	6-36								
PTER3_ECOLI	TETRACYCLINE REPRESSOR PROTEIN CLASS B	ESCHERICHIA COLI	183-210								
PTER4_ECOLI	TETRACYCLINE REPRESSOR PROTEIN CLASS D	ESCHERICHIA COLI	48-86								
PTERA_ALCSP	TELLURIUM RESISTANCE PROTEIN TERA	ALCALIGENES SP	4-31								
PTES8_ECOLI	ACYL-COA THIOESTERASE II	ESCHERICHIA COLI	2-36	130-159	179-206	217-244					
PTET3_ENTFA	TETRACYCLINE RESISTANCE PROTEIN TET3	ENTEROCOCCUS FAECALIS	2-36	130-159	217-244	260-287					
PTETA_ENTFA	TETRACYCLINE RESISTANCE PROTEIN TETA	ENTEROCOCCUS FAECALIS	2-36	130-159	217-244						
PTETC_ECOLI	TRANSPOSON TN10 TETC PROTEIN	ESCHERICHIA COLI	72-108	116-158							
PTETM_STRLI	TETRACYCLINE RESISTANCE PROTEIN	STREPTOMYCES LIVIDANS	82-109								
PTETM_UREUR	TETRACYCLINE RESISTANCE PROTEIN TETM	UREAPLASMA UREALYTICUM	2-36	130-159	213-244	260-287					
PTETO_CAMCO	TETRACYCLINE RESISTANCE PROTEIN TETO	CAMPYLOBACTER COLI	2-29								
PTETO_CAMJE	TETRACYCLINE RESISTANCE PROTEIN TETO	CAMPYLOBACTER JEJUNI	2-36								
PTETO_STRMU	TETRACYCLINE RESISTANCE PROTEIN TETO	STREPTOCOCCUS MUTANS	2-29								
PTETX_BACFR	TETRACYCLINE RESISTANCE PROTEIN	BACTEROIDES FRAGILIS	35-62								
PTETX_CLOTE	TETANUS TOXIN PRECURSOR	CLOSTRIDIUM TETANI	2274-304	540-567	615-641	672-719	985-1013	1240-1277			
PTF2D_PYAWO	TRANS INITIATION FACTOR IIB HOMOLOG	PYROCOCCUS WOESEI	218-256								
PTFDC_ALCEU	CHLOROCATECHOL 1,2-DIOXYGENASE	ALCALIGENES EUTROPHUS	2-33								
PTGT_ECOLI	QUEURNE TRNA-RIBOSYLTRANSFERASE	ESCHERICHIA COLI	173-200								
PTHD1_LACLA	THREONINE DEHYDRATASE BIOSYNTHETIC	LACTOCOCCUS LACTIS	267-303								
PTHD2_ECOLI	THREONINE DEHYDRATASE CATABOLIC	ESCHERICHIA COLI	293-320								
PTHDF_BACSU	FURAN OXIDATION PROTEIN THDF	BACILLUS SUBTILIS	153-180	192-226	282-316	391-418					
PTHDF_ECOLI	FURAN OXIDATION PROTEIN THDF	ESCHERICHIA COLI	228-260	404-431							
PTHDF_PSEPU	FURAN OXIDATION PROTEIN THDF	PSEUDOMONAS PUTIDA	228-260								
PTHER_BACCE	THERMOLYSIN	BACILLUS CEREUS	4-38	240-267							
PTHER_BACST	THERMOLYSIN PRECURSOR	BACILLUS STEAROTHERMOPHILUS	45-72								

PCGENE	10Jul96d4	Prokaryotic Sequences									
FILE NAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PTHER_BACTH	THERMOLYSIN	BACILLUS THERMOPROTEOLYTICUS	86-113								
PTHET_THEVU	THERMITASE	THERMOACTINOMYCES VULGARIS	131-161								
PTHIC_ECOLI	THIC PROTEIN	ESCHERICHIA COLI	232-263	301-328							
PTHIO_ECOLI	THIO PROTEIN	ESCHERICHIA COLI	138-165								
PTHIP5_SULAC	THERMOPSIN PRECURSOR	SULFOLOBUS ACIDOCALDARIUS	133-172	199-233							
PTHRC_BRELA	THREONINE SYNTHASE	BREVIBACTERIUM LACTOFERMENTUM	288-313								
PTHTA_SACER	PUTATIVE THIOSULFATE SULFURTRANSFERASE	SACCHAROPOLYSPORA ERYTHRAEA	69-96								
PTIG_ECOLI	TRIGGER FACTOR	ESCHERICHIA COLI	144-171								
PTNPA_TREPA	TREPONEMAL MEMBRANE PROTEIN A PRECURSOR	TREPONEMA PALLIDUM	216-266								
PTNPB_TREPA	TREPONEMAL MEMBRANE PROTEIN B PRECURSOR	TREPONEMA PALLIDUM	40-71								
PTNPB_TREPH	TREPONEMAL MEMBRANE PROTEIN B PRECURSOR	TREPONEMA PHAGEDENIS	41-68								
PTNAB_ECOLI	LOW AFFINITY TRYPTOPHAN PERMEASE	ESCHERICHIA COLI	74-108								
PTNP4_STAAU	TRANSPOSASE	STAPHYLOCOCCUS AUREUS	152-79	322-349							
PTNP7_ENTFA	TRANSPOSON TN917 RESOLVASE	ENTEROCOCCUS FAECALIS	39-97	111-138							
PTNPA_STAAU	TRANSPOSASE A	STAPHYLOCOCCUS AUREUS	151-178								
PTNPB_STAAU	TRANSPOSASE B	STAPHYLOCOCCUS AUREUS	589-625								
PTNP1_BACTU	TNP1 RESOLVASE	BACILLUS THURINGIENSIS	7-42	61-92	174-201						
PTN5B_ECOLI	TRANSPOSON TN7 TRANSPOSITION PROTEIN TN5B	ESCHERICHIA COLI	99-126	516-537							
PTN5C_ECOLI	TRANSPOSON TN7 TRANSPOSITION PROTEIN TN5C	ESCHERICHIA COLI	32-59	314-341							
PTN5D_ECOLI	TRANSPOSON TN7 TRANSPOSITION PROTEIN TN5D	ESCHERICHIA COLI	339-366								
PTN5E_ECOLI	TRANSPOSON TN7 TRANSPOSITION PROTEIN TN5E	ESCHERICHIA COLI	463-490								
PTODI_PSEPU	TOLUENE 1,2-DIOXYGENASE ALPHA SUBUNIT	PSEUDOMONAS PUTIDA	36-63								
PTODI_PSEPU	TOLUENE 1,2-DIOXYGENASE BETA SUBUNIT	PSEUDOMONAS PUTIDA	118-153								
PTODA_PSEPU	TOLUENE 1,2-DIOXYGENASE SYSTEM	PSEUDOMONAS PUTIDA	179-213								
PTODJ_PSEPU	TODF PRODUCT HYDRATASE	PSEUDOMONAS PUTIDA	143-170								
PTOLA_ECOLI	TOLA PROTEIN	ESCHERICHIA COLI	101-138								
PTOLC_ECOLI	OUTER MEMBRANE PROTEIN TOLC PRECURSOR	ESCHERICHIA COLI	144-178	184-211	239-266	348-375	383-443				
PTOPI_SYNP7	DNA TOPOISOMERASE I	SYNECHOCOCCUS SP	201-230								
PTORA_ECOLI	TRIMETHYLAMINE-N-OXIDE REDUCTASE	ESCHERICHIA COLI	797-824								
PTOX1_BORPE	PERTUSSIS TOXIN SUBUNIT 1 (S1) PRECURSOR	BORDETELLA PERTUSSIS	179-206								
PTOX2_BORPE	PERTUSSIS TOXIN SUBUNIT 2 (S2) PRECURSOR	BORDETELLA PERTUSSIS	58-85								
PTOXA_CLODI	TOXIN A	CLOSTRIDIUM DIFFICILE	20-48	99-159	204-231	342-369	373-414	847-962	966-994	997-1024	1348-1402
PTOXA_PSEAE	EXOTOXIN A PRECURSOR	PSEUDOMONAS AERUGINOSA	470-497								
PTOXB_CLODI	TOXIN B	CLOSTRIDIUM DIFFICILE	38-72	133-163	199-241	825-869	923-950	1334-1388	1402-1433	1506-1565	1716-1747
PTOXS_VIBCH	TRANSMEMBRANE REGULATORY PROTEIN TOXS	VIBRIO CHOLERAE	13-40								
PTPF1_TREPA	ANTIGEN TPF1	TREPONEMA PALLIDUM	106-141								
PTPI5_ECOLI	TRIOSEPHOSPHATE ISOMERASE	ESCHERICHIA COLI	81-110								
PTPI5_MORSP	TRIOSEPHOSPHATE ISOMERASE	MORAXELLA SP	119-166								
PTPR_PORGI	THIOL PROTEASE PRECURSOR	PORPHYROMONAS GINGIVALIS	117-144								
PTRJM_AGRT3	TRYPTOPHAN 2-MONOOXYGENASE	AGROBACTERIUM TUMEFACIENS	239-266	301-329							
PTRJM_AGRT4	TRYPTOPHAN 2-MONOOXYGENASE	AGROBACTERIUM TUMEFACIENS	239-266	301-329							
PTRJM_PSESS	TRYPTOPHAN 2-MONOOXYGENASE	PSEUDOMONAS SYRINGAE	41-68								
PTRA1_STAAU	TRANSPOSASE	STAPHYLOCOCCUS AUREUS	38-113	38-113							
PTRA2_STAAU	TRANSPOSASE	STAPHYLOCOCCUS AUREUS	11-38								
PTRA3_ECOLI	TRANSPOSASE	ESCHERICHIA COLI	721-755								
PTRA3_RHIME	TRANSPOSASE	RHIZOBIUM MELILOTI	179-206								
PTRA3_STAAU	TRANSPOSASE	STAPHYLOCOCCUS AUREUS	33-60	68-95							
PTRA4_ECOLI	TRANSPOSASE	ESCHERICHIA COLI	181-208	308-340	720-754						
PTRA6_ECOLI	TRANSPOSASE	ESCHERICHIA COLI	51-78								
PTRA6_SHIFO	TRANSPOSASE	SHIGELLA SONNEI	51-78	200-227	231-258						
PTRA7_ECOLI	TRANSPOSASE	ESCHERICHIA COLI	728-756								
PTRA9_MYCTU	PUTATIVE TRANSPOSASE	MYCOBACTERIUM TUBERCULOSIS	159-186								
PTRAB_BACTB	IS231B PROBABLE TRANSPOSASE	BACILLUS THURINGIENSIS	281-308	419-446							
PTRAC_BACTB	IS231C PROBABLE TRANSPOSASE	BACILLUS THURINGIENSIS	281-308	419-446							
PTRAC_STAAU	TRANSPOSASE	STAPHYLOCOCCUS AUREUS	4-31	45-72							
PTRAX_BACTB	IS231 PROBABLE TRANSPOSASE	BACILLUS THURINGIENSIS	281-308	419-446							
PTRA_BACTU	TRANSPOSASE	BACILLUS THURINGIENSIS	91-137	509-539							

PEGENE	1071:1214	Prokaryote Sequences									
FILENAME	PROTEIN	ORGANISM	ARFA1	ARFA2	ARFA3	ARFA4	ARFA5	ARFA6	ARFA7	ARFA8	ARFA9
PTRA_PSEAE	TRANSPOSASE	PSEUDOMONAS AERUGINOSA	121-134	721-735							
PTRB1_ECOLI	TRAB PROTEIN	ESCHERICHIA COLI	113-143								
PTRB1_ECOLI	TRAB PROTEIN	ESCHERICHIA COLI	12-39								
PTRBF_ECOLI	TRBF PROTEIN	ESCHERICHIA COLI	30-97								
PTRBI_ECOLI	TRBI PROTEIN	ESCHERICHIA COLI	1006-1058								
PTRC1_ECOLI	TRAC-1 PROTEIN	ESCHERICHIA COLI	1102-1149								
PTRC2_ECOLI	TRAC-2 PROTEIN	ESCHERICHIA COLI	814-931								
PTRC3_ECOLI	TRAC-3 PROTEIN	ESCHERICHIA COLI	293-348								
PTRD1_ECOLI	TRAD PROTEIN	ESCHERICHIA COLI	361-401	477-508							
PTREA_ECOLI	PERIPLASMIC TREHALASE PRECURSOR	ESCHERICHIA COLI	206-307								
PTREC_ECOLI	AMYLOTREHALASE	ESCHERICHIA COLI	5-32	105-132							
PTRFA_ECOLI	TRFA TRANSCRIPTIONAL REPRESSOR PROTEIN	ESCHERICHIA COLI	61-88	630-657	831-858	865-895					
PTRG1_ECOLI	TRAG PROTEIN	ESCHERICHIA COLI	196-223								
PTRG5_ECOLI	TRAG PROTEIN	ESCHERICHIA COLI	193-223	318-345							
PTRG6_ECOLI	TRAG PROTEIN	ESCHERICHIA COLI	155-209	397-424	887-914	1350-1377					
PTRI1_ECOLI	TRAI PROTEIN	ESCHERICHIA COLI	155-209	397-424	887-914	1350-1377					
PTRI7_ECOLI	TRAI PROTEIN	ESCHERICHIA COLI	47-74	128-371							
PTRJ1_ECOLI	TRAJ PROTEIN	ESCHERICHIA COLI	36-63								
PTRJ5_ECOLI	TRAJ PROTEIN	ESCHERICHIA COLI	5-32								
PTRN1_ECOLI	TRAN PROTEIN	ESCHERICHIA COLI	107-137								
PTRNA_ECOLI	TRNA (URACIL-5-)-METHYLTRANSFERASE	ESCHERICHIA COLI	113-142	226-253							
PTRUD_ECOLI	TRNA (GUANINE-N(1)-)METHYLTRANSFERASE	ESCHERICHIA COLI	220-247								
PTRPA_BACSU	TRYPTOPHAN SYNTHASE ALPHA CHAIN	BACILLUS SUBTILIS	241-275								
PTRPA_CAUCR	TRYPTOPHAN SYNTHASE ALPHA CHAIN	CAULOBACTER CRESCENTUS	176-203								
PTRPA_PSEAE	TRYPTOPHAN SYNTHASE ALPHA CHAIN	PSEUDOMONAS AERUGINOSA	78-113								
PTRPB_ACICA	TRYPTOPHAN SYNTHASE BETA CHAIN	ACINETOBACTER CALCOACETICUS	76-103	318-345							
PTRPB_BACSU	TRYPTOPHAN SYNTHASE BETA CHAIN	BACILLUS SUBTILIS	172-199								
PTRPB_BRELA	TRYPTOPHAN SYNTHASE BETA CHAIN	BREVIBACTERIUM LACTOFERMENTUM	81-117								
PTRPB_LACCA	TRYPTOPHAN SYNTHASE BETA CHAIN	LACTOBACILLUS CASEI	77-104	164-191							
PTRPB_LACLA	TRYPTOPHAN SYNTHASE BETA CHAIN	LACTOCOCCUS LACTIS	56-83								
PTRPB_VIBPA	TRYPTOPHAN SYNTHASE BETA CHAIN	VIBRIO PARAHAEMOLYTICUS	229-256								
PTRPC_BRELA	INDOLE-3-GLYCEROL PHOSPHATE SYNTHASE	BREVIBACTERIUM LACTOFERMENTUM	205-232								
PTRPC_ECOLI	INDOLE-3-GLYCEROL PHOSPHATE SYNTHASE	ESCHERICHIA COLI	148-175								
PTRPC_LACLA	INDOLE-3-GLYCEROL PHOSPHATE SYNTHASE	LACTOCOCCUS LACTIS	346-376								
PTRPC_VIBPA	INDOLE-3-GLYCEROL PHOSPHATE SYNTHASE	VIBRIO PARAHAEMOLYTICUS	222-250	260-294							
PTRPD_ACICA	ANTHRANILATE PHOSPHORIBOSYLTRANSFERASE	ACINETOBACTER CALCOACETICUS	205-232								
PTRPD_PSEAE	ANTHRANILATE PHOSPHORIBOSYLTRANSFERASE	PSEUDOMONAS AERUGINOSA	205-232								
PTRPD_PSEPU	ANTHRANILATE PHOSPHORIBOSYLTRANSFERASE	PSEUDOMONAS PUTIDA	2-29								
PTRPD_VIBPA	ANTHRANILATE PHOSPHORIBOSYLTRANSFERASE	VIBRIO PARAHAEMOLYTICUS	33-60								
PTRPE_BACPU	ANTHRANILATE SYNTHASE COMPONENT I	BACILLUS PUMILUS	165-226								
PTRPE_CLOTM	ANTHRANILATE SYNTHASE COMPONENT I	CLOSTRIDIUM THERMOCELLUM	142-191								
PTRPE_LACLA	ANTHRANILATE SYNTHASE COMPONENT II	LACTOCOCCUS LACTIS	143-199								
PTRPE_LEPIN	ANTHRANILATE SYNTHASE COMPONENT I	LEPTOSPIRA INTERROGANS	139-166								
PTRPE_RHIME	ANTHRANILATE SYNTHASE	RHIZOBIUM MELILOTI	191-218								
PTRPE_SALTY	ANTHRANILATE SYNTHASE COMPONENT I	SALMONELLA TYPHIMURIUM	143-183	298-328							
PTRPE_SULSO	ANTHRANILATE SYNTHASE COMPONENT I	SULFOLOBUS SOLFATARICUS	9-36	54-81							
PTRPE_VIBPA	ANTHRANILATE SYNTHASE COMPONENT I	VIBRIO PARAHAEMOLYTICUS	12-39								
PTRPG_ACICA	ANTHRANILATE SYNTHASE COMPONENT II	ACINETOBACTER CALCOACETICUS	4-31								
PTRPG_AZOBR	ANTHRANILATE SYNTHASE COMPONENT II	AZOSPIRILLUM BRASILENSE	5-32								
PTRPG_ECOLI	ANTHRANILATE SYNTHASE COMPONENT II	ESCHERICHIA COLI	4-31								
PTRPG_LACLA	ANTHRANILATE SYNTHASE COMPONENT II	LACTOCOCCUS LACTIS	12-39								
PTRPG_PSEAE	ANTHRANILATE SYNTHASE COMPONENT II	PSEUDOMONAS AERUGINOSA	5-32								
PTRPG_SALTY	ANTHRANILATE SYNTHASE COMPONENT II	SALMONELLA TYPHIMURIUM	9-43								
PTRPG_SERMA	ANTHRANILATE SYNTHASE COMPONENT II	SERRATIA MARCESCENS	5-32								
PTRPG_SHIDY	ANTHRANILATE SYNTHASE COMPONENT II	SHIGELLA DYSENTERIAE	5-32								
PTRPO_PSEAE	PUTATIVE TRANSCRIPTIONAL REGULATOR	PSEUDOMONAS AERUGINOSA	147-174								
PTRSI_ECOLI	TRAS PROTEIN	ESCHERICHIA COLI	85-119								
PTRT1_ECOLI	RESISTANCE PROTEIN PRECURSOR	ESCHERICHIA COLI	184-221								

PGENE	107s178s4	Prokaryotic Sequences									
FILENAME	PROTEIN	ORGANISM	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PTRY1_SALTY	TRAY PROTEIN	SALMONELLA TYPHIMURIUM	30-57								
PTRYP_STRGR	TRYPSIN PRECURSOR	STREPTOMYCES GRISEUS	80-107								
PTSR_STRAZ	RRNA METHYLTRANSFERASE	STREPTOMYCES AZUREUS	126-153								
PTSST_STAAU	TOXIC SHOCK SYNDROME TOXIN-1 PRECURSOR	STAPHYLOCOCCUS AUREUS	29-63	102-129							
PTSX_ECOLI	CHANNEL-FORMING PROTEIN TSX PRECURSOR	ESCHERICHIA COLI	225-252								
PTTK_ECOLI	HYPOTHETICAL 24.3 KD PROTEIN	ESCHERICHIA COLI	81-115								
PTUS_ECOLI	SITE-BINDING PROTEIN	ESCHERICHIA COLI	57-91	107-134							
PTYCA_BACBR	TYROCIDINE SYNTHETASE I	BACILLUS BREVIS	117-147	534-561	1019-1051						
PTYF1_TREPE	ANTIGEN TYF1	TREPONEMA PERTENUE	106-143								
PTYRA_BACSU	POSSIBLE PREPHENATE DEHYDROGENASE	BACILLUS SUBTILIS	244-271	312-342							
PTYRA_ECOLI	CHORISMATE MUTASE	ESCHERICHIA COLI	329-370								
PTYRR_ECOLI	TRANSCRIPTIONAL REGULATORY PROTEIN TYRR	ESCHERICHIA COLI	483-510								
PTYSY_LACCA	THYMIDYLATE SYNTHASE	LACTOBACILLUS CASEI	139-173								
PTYSY_LACLA	THYMIDYLATE SYNTHASE	LACTOCOCCUS LACTIS	75-109								
PTYSY_STAAU	THYMIDYLATE SYNTHASE	STAPHYLOCOCCUS AUREUS	69-96								
PUHPB_ECOLI	SENSOR PROTEIN UHPB	ESCHERICHIA COLI	276-303	316-343							
PUHPB_SALTY	SENSOR PROTEIN UHPB	SALMONELLA TYPHIMURIUM	276-303	316-343							
PUNUC_SALTY	UNUC PROTEIN	SALMONELLA TYPHIMURIUM	204-231								
PUPP_ECOLI	URACIL PHOSPHORIBOSYLTRANSFERASE	ESCHERICHIA COLI	30-57								
PURAA_ECOLI	URACIL PERMEASE	ESCHERICHIA COLI	350-384								
PUREI_HELPY	UREASE ALPHA SUBUNIT	HELICOBACTER PYLORI	15-42								
PUREI_PROMI	UREASE ALPHA SUBUNIT	PROTEUS MIRABILIS	72-99								
PUREI_PROVU	UREASE ALPHA SUBUNIT	PROTEUS VULGARIS	72-99								
PUREI_UREUR	UREASE ALPHA SUBUNIT	UREAPLASMA UREALYTICUM	13-40	483-517							
PUREJ_HELPY	UREASE BETA SUBUNIT	HELICOBACTER PYLORI	62-99								
PURED_HELPY	UREASE OPERON URED PROTEIN	HELICOBACTER PYLORI	17-44								
PUREE_PROMI	UREASE ACCESSORY PROTEIN UREE	PROTEUS MIRABILIS	57-84								
PUREF_KLEAE	UREASE ACCESSORY PROTEIN UREF PRECURSOR	KLEBSIELLA AEROGENES	20-47								
PUS45_LACLA	SECRETED 45 KD PROTEIN PRECURSOR	LACTOCOCCUS LACTIS	44-98	150-223	276-303						
PUSHA_ECOLI	P-SUGAR HYDROLASE PRECURSOR	ESCHERICHIA COLI	56-83								
PUSHA_SALTY	SILENT PROTEIN USHA(0) PRECURSOR	SALMONELLA TYPHIMURIUM	56-83								
PUVRA_ECOLI	EXCINUCLEASE ABC SUBUNIT A	ESCHERICHIA COLI	527-554	871-898							
PUVRA_MICLU	EXCINUCLEASE ABC SUBUNIT A	MICROCOCCUS LUTEUS	579-606	819-646	684-718	922-949					
PUVRA_PARDE	EXCINUCLEASE ABC SUBUNIT A	PARACOCCUS DENITRIFICANS	33-60								
PUVRC_BACSU	EXCINUCLEASE ABC SUBUNIT C	BACILLUS SUBTILIS	342-372	511-538							
PUVRC_ECOLI	EXCINUCLEASE ABC SUBUNIT C	ESCHERICHIA COLI	37-64	332-362							
PUVRD_ECOLI	HELICASE II	ESCHERICHIA COLI	280-307								
PVANA_ENTFC	VANCOMYCIN RESISTANCE PROTEIN VANA	ENTEROCOCCUS FAECIUM	182-209								
PVANC_ENTGA	VANCOMYCIN RESISTANCE PROTEIN VANC	ENTEROCOCCUS GALLINARUM	173-211								
PVIB4_AGRT5	VIRB4 PROTEIN PRECURSOR	AGROBACTERIUM TUMEFACIENS	138-172								
PVIB6_AGRT5	VIRB6 PROTEIN	AGROBACTERIUM TUMEFACIENS	190-227								
PVIB6_AGRT6	VIRB6 PROTEIN	AGROBACTERIUM TUMEFACIENS	190-227								
PVIB6_AGRT9	VIRB6 PROTEIN	AGROBACTERIUM TUMEFACIENS	190-227								
PVIBX_AGRT5	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239							
PVIBX_AGRT6	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	211-238							
PVIBX_AGRT9	VIRB10 PROTEIN	AGROBACTERIUM TUMEFACIENS	32-59	212-239							
PVIC1_AGRRA	VIRC1 PROTEIN	AGROBACTERIUM RHIZOGENES TUMEFACIENS	81-108								
PVIC1_AGRT5	VIRC1 PROTEIN	AGROBACTERIUM TUMEFACIENS	81-108								
PVIC1_AGRT6	VIRC1 PROTEIN	AGROBACTERIUM TUMEFACIENS	81-108								
PVID3_AGRRA	VIRD3 PROTEIN	AGROBACTERIUM RHIZOGENES	149-176	265-292							
PVIRA_AGRT5	WIDE HOST RANGE (WHR) VIRA PROTEIN	AGROBACTERIUM TUMEFACIENS	42-76	113-147	657-684						
PVIRA_AGRT6	WIDE HOST RANGE (WHR) VIRA PROTEIN	AGROBACTERIUM TUMEFACIENS	42-69	84-125	653-680						
PVIRA_AGRT9	WIDE HOST RANGE (WHR) VIRA PROTEIN	AGROBACTERIUM TUMEFACIENS	42-69	84-125	653-680						
PVIRB_SHIFL	VIRB TRANSCRIPTIONAL ACTIVATOR	SHIGELLA FLEXNERI	37-71	107-134	187-214	252-291					
PVIRF_YEREN	VIRULENCE REGULON TRANSACTIVATOR	YERSINIA ENTEROCOLITICA	16-46								
PVIRG_AGRRA	VIRG REGULATORY PROTEIN	AGROBACTERIUM RHIZOGENES	34-61								
PVIRL_AGRT6	LIMITED HOST RANGE (LHR) VIRA PROTEIN	AGROBACTERIUM TUMEFACIENS	106-157								

PCGENE	1997178x4	Prokaryotic Sequences									
		ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
EUECNADF	PROTEIN	ESCHERICHIA COLI	47-74								
PVISC_ECOLI	VISC PROTEIN	ESCHERICHIA COLI									
PVLPA_MYCHR	VAJAINT SURFACE ANTIGEN A PRECURSOR	MYCOPLASMA HYORHINIS	24-112								
PVKH3_BORHE	OUTER MEMBRANE LIPOPROTEIN 3 PRECURSOR	BORRELIA HERMSII	34-81								
PVKH7_BORHE	OUTER MEMBRANE LIPOPROTEIN 7 PRECURSOR	BORRELIA HERMSII	332-359								
PVKH21_BORHE	OUTER MEMBRANE LIPOPROTEIN 21 PRECURSOR	BORRELIA HERMSII	330-357								
PVKH34_BORHE	OUTER MEMBRANE LIPOPROTEIN 34 PRECURSOR	BORRELIA HERMSII	47-143								
PVKH35_BORHE	OUTER MEMBRANE LIPOPROTEIN 35 PRECURSOR	BORRELIA HERMSII	315-356								
PVNFA_AZOVI	NITROGEN FIXATION PROTEIN VNFA	AZOTOBACTER VINELANDII	158-188	218-245							
PVNFK_AZOCH	NITROGENASE VANADIUM-IRON PROTEIN	AZOTOBACTER CHROOCOCCUM MCD 1	68-95								
PVNFK_AZOVI	NITROGENASE VANADIUM-IRON PROTEIN	AZOTOBACTER VINELANDII	68-95	372-403							
PVRD1_SALCH	63 KD VIRULENCE PROTEIN	SALMONELLA CHOLERAE-SUIS	309-336								
PVRD1_SALDU	63 KD VIRULENCE PROTEIN	SALMONELLA DUBLIN	311-338								
PVIDE_SALDU	VIRULENCE PROTEIN VIDE	SALMONELLA DUBLIN	3-16								
PVVIB_VIBVU	CYTOLYSIN SECRETION PROTEIN	VIBRIO VULNIFICUS	30-73								
PWAPA_STRMU	WALL-ASSOCIATED PROTEIN PRECURSOR	STREPTOCOCCUS MUTANS	4-41	313-346							
PWRBA_ECOLI	TRP REPRESSOR BINDING PROTEIN	ESCHERICHIA COLI	89-116								
PX191_ECOLI	X POLYPEPTIDE	ESCHERICHIA COLI	104-131								
PX191_ECOLI	X POLYPEPTIDE	ESCHERICHIA COLI	104-131								
PX191_ECOLI	X POLYPEPTIDE	ESCHERICHIA COLI	104-131								
PXBSA_ANASP	EXCISASE A	ANABAENA SP	4-31	89-116	135-162						
PXPRB_ECOLI	POSSIBLE INTEGRASE/RECOMBINASE XPRB	ESCHERICHIA COLI	268-295								
PXYLA_STAXY	XYLOSE ISOMERASE	STAPHYLOCOCCUS XYLOSUS	411-438								
PXYLK_KLEAE	XYLULOSE KINASE	KLEBSIELLA AEROGENES	2-29								
PXYLK_LACPE	XYLULOSE KINASE	LACTOBACILLUS PENTOSUS	52-79	211-238	260-287						
PXYLK_STAXY	XYLULOSE KINASE	STAPHYLOCOCCUS XYLOSUS	4-31	96-130	209-236	246-273					
PXYLR_BACSU	XYLOSE REPRESSOR	BACILLUS SUBTILIS	35-102	260-287							
PXYLR_LACPE	XYLOSE REPRESSOR	LACTOBACILLUS PENTOSUS	262-289								
PXYLR_STAXY	XYLOSE REPRESSOR	STAPHYLOCOCCUS XYLOSUS	20-64	101-138	181-215	221-255	274-301				
PXYL2_PSEFU	ELECTRON TRANSFER COMPONENT	PSEUDOMONAS PUTIDA	51-78	104-131							
PXYN4_CALSA	PUTATIVE ENDO-1,4-BETA-XYLANASE	CALDOCELLUM SACCHAROLYTICUM	199-225								
PXYNA_BACCI	O-1,4-BETA-XYLANASE PRECURSOR	BACILLUS CIRCULANS	47-74								
PXYNA_BACSS	ENDO-1,4-BETA-XYLANASE PRECURSOR	BACILLUS SP	173-200								
PXYNA_BACSU	ENDO-1,4-BETA-XYLANASE PRECURSOR	BACILLUS SUBTILIS	47-74								
PXYNA_CALSA	ENDO-1,4-BETA-XYLANASE A PRECURSOR	CALDOCELLUM SACCHAROLYTICUM	132-159	216-256							
PXYNA_PSEFL	ENDO-1,4-BETA-XYLANASE PRECURSOR	PSEUDOMONAS FLUORESCENS	33-82								
PXYNB_BACPU	BETA-XYLOSIDASE	BACILLUS PUMILUS	459-486								
PXYNH_CALSA	BETA-XYLOSIDASE	CALDOCELLUM SACCHAROLYTICUM	440-474								
PXYNB_PSEFL	ENDO-1,4-BETA-XYLANASE PRECURSOR	PSEUDOMONAS FLUORESCENS	31-78	151-178	217-244	475-502					
PXYNC_PSEFL	ALPHA-L-ARABINOFURANOSIDASE C PRECURSOR	PSEUDOMONAS FLUORESCENS	31-78	151-178							
PXYNC_STRLI	ENDO-1,4-BETA-XYLANASE C PRECURSOR	STREPTOMYCES LIVIDANS	183-210								
PY14K_HALMO	HYPOTHETICAL 14.9 KD PROTEIN	HALOCOCCUS MORRHUAE	36-83								
PY23K_STROR	HYPOTHETICAL 23.1 KD PROTEIN	STREPTOCOCCUS ORALIS	78-105								
PY36K_METTM	HYPOTHETICAL 36.1 KD PROTEIN	METHANOBREVIBACTER SMITHII	128-162	172-218							
PYAAC_ECOLI	HYPOTHETICAL 34.6 KD PROTEIN	ESCHERICHIA COLI	271-298								
PYAAC_PSEFL	HYPOTHETICAL 33.9 KD PROTEIN	PSEUDOMONAS FLUORESCENS	274-301								
PYAAM_ECOLI	HYPOTHETICAL 59.1 KD PROTEIN	ESCHERICHIA COLI	45-72								
PYAAP_ECOLI	HYPOTHETICAL 56.6 KD PROTEIN	ESCHERICHIA COLI	332-379								
PYAAQ_ECOLI	HYPOTHETICAL 28.1 KD PROTEIN	ESCHERICHIA COLI	155-183								
PYABC_ECOLI	HYPOTHETICAL 34.9 KD PROTEIN	ESCHERICHIA COLI	131-158								
PYABQ_ECOLI	HYPOTHETICAL 69.7 KD PROTEIN	ESCHERICHIA COLI	446-480	627-654							
PYABN_ECOLI	HYPOTHETICAL 61.9 KD PROTEIN	ESCHERICHIA COLI	420-453								
PYAC1_PSEAE	HYPOTHETICAL 33.9 KD PROTEIN	PSEUDOMONAS AERUGINOSA	48-75	130-177							
PYAD2_CLOAB	HYPOTHETICAL 21.6 KD PROTEIN	CLOSTRIDIUM ACETOBUTYLICUM	75-109	114-144							
PYAD5_CLOAB	HYPOTHETICAL 16.9 KD PROTEIN	CLOSTRIDIUM ACETOBUTYLICUM	133-159	165-196	210-237						
PYAD6_CLOAB	HYPOTHETICAL PROTEIN	CLOSTRIDIUM ACETOBUTYLICUM	21-55								
PYADA_YEREN	INVASIN PRECURSOR	YERSINIA ENTEROCOLITICA	196-230	247-274	318-181						
PYADA_YERPS	INVASIN PRECURSOR	YERSINIA PSEUDOTUBERCULOSIS	255-282	297-360							

PCGENE	1997a178:4	Prokaryotic Sequences									
FILE_NAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PYAOC_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	13-49	101-131							
PYAEA_RICRI	17 KD PROTEIN	RICKETTSIA RICKETTSII	107-134								
PYAIU_ECOLI	HYPOTHETICAL 29.4 KD PROTEIN	ESCHERICHIA COLI	221-248								
PYAFD_ECOLI	HYPOTHETICAL 29.1 KD PROTEIN	ESCHERICHIA COLI	34-71								
PYAFE_ECOLI	HYPOTHETICAL 23.0 KD PROTEIN	ESCHERICHIA COLI	123-159								
PYAIB_ESCFE	HYPOTHETICAL PROTEIN	ESCHERICHIA FERGUSONII	2-35								
PYAMI_SALTY	PUTATIVE AMIDASE	SALMONELLA TYPHIMURIUM	72-100								
PYATI_SYNY3	HYPOTHETICAL 13.6 KD PROTEIN	SYNECHOCYSTIS SP	16-60								
PYATP_MYCLE	HYPO PROTEIN PUTATIVE ATP OPERON	MYCOBACTERIUM LEPRAE	23-57	91-158	511-538						
PYATR_BACFI	HYPOL ATP-BINDING TRANSPORT PROTEIN	BACILLUS FIRMUS	211-238								
PYATS_MYCGA	HYPOTHETICAL PROTEIN	MYCOPLASMA GALLISEPTICUM	7-41								
PYATU_MYCGA	HYPOTHETICAL PROTEIN	MYCOPLASMA GALLISEPTICUM	29-58	60-87							
PYAV5_XANCV	HYPOTHETICAL 30 KD AVIRULENCE PROTEIN	XANTHOMONAS CAMPESTRIS	68-98	199-226							
PYBAH_ECOLI	HYPOTHETICAL 30.8 KD PROTEIN	ESCHERICHIA COLI	49-79								
PYBBA_ECOLI	HYPOTHETICAL ABC TRANSPORTER	ESCHERICHIA COLI	6-69								
PYBED_ECOLI	HYPOTHETICAL 9.1 KD PROTEIN	ESCHERICHIA COLI	51-82								
PYBID_ECOLI	HYPOTHETICAL 14.1 KD PROTEIN	ESCHERICHIA COLI	97-124								
PYCAE_ECOLI	HYPOTHETICAL 24.5 KD PROTEIN	ESCHERICHIA COLI	34-61								
PYCBA_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	38-65								
PYCBL_BACUN	HYPOTHETICAL 17.3 KD PROTEIN	BACTEROIDES UNIFORMIS	66-100								
PYCEA_BACLA	HYPOTHETICAL PROTEIN	BACILLUS LAUTUS	111-138								
PYCFC_ECOLI	HYPOTHETICAL 23.9 KD PROTEIN	ESCHERICHIA COLI	52-79								
PYCGR_ALCEU	HYPOTHETICAL PROTEIN	ALCALIGENES EUTROPHUS	21-48								
PYCIB_ECOLI	HYPOTHETICAL 30.1 KD PROTEIN	ESCHERICHIA COLI	16-43								
PYCIF_ECOLI	18.6 KD PROTEIN	ESCHERICHIA COLI	7-68	134-166							
PYCIK_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	23-62								
PYCLI_ECOLI	HYPOTHETICAL 40.1 KD PROTEIN	ESCHERICHIA COLI	34-61								
PYCPJ_SYNPY	HYPOTHETICAL 39.1 KD PROTEIN	SYNECHOCOCCUS SP	194-221								
PYCPJ_SYNY3	HYPOTHETICAL 38.6 KD PROTEIN	SYNECHOCYSTIS SP	7-34	120-154							
PYCPJ_SYNY3	HYPOTHETICAL 39.5 KD PROTEIN	SYNECHOCYSTIS SP	277-308								
PYCPG_MASLA	HYPOTHETICAL PROTEIN	MASTIGOCLADUS LAMINOSUS	2-39								
PYCPY_PSEAV	HYPO PHYCOCYANIN OPERON PROTEIN Y	PSEUDANABAENA SP	380-407								
PYCRJ_BACTK	HYPOTHETICAL 29.1 KD PROTEIN	BACILLUS THURINGIENSIS	42-74	133-180							
PYCSS_ECOLI	HYPOTHETICAL PROTEIN PRECURSOR	ESCHERICHIA COLI	22-59								
PYCW5_BACSU	HYPOTHETICAL PROTEIN	BACILLUS SUBTILIS	1-30	59-86							
PYDJM_HERAU	HYPOTHETICAL 68.4 KD PROTEIN	HERPETOSIPHON AURANTIACUS	12-39	151-178	360-416						
PYDBA_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	32-66	117-144	163-216	233-267	295-329	458-485	636-717	1136-1163	1499-1530
PYDBD_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	80-107								
PYDDB_ECOLI	HYPOTHETICAL 86.7 KD PROTEIN	ESCHERICHIA COLI	606-641	683-714	726-753						
PYDDC_ECOLI	HYPOTHETICAL 80.8 KD PROTEIN	ESCHERICHIA COLI	373-400	421-453	631-648						
PYDDD_ECOLI	HYPOTHETICAL 24.1 KD PROTEIN	ESCHERICHIA COLI	133-174								
PYDEH_ECOLI	HYPOTHETICAL 26.5 KD PROTEIN	ESCHERICHIA COLI	96-130								
PYDEJ_ECOLI	HYPOTHETICAL 18.1 KD PROTEIN	ESCHERICHIA COLI	4-38								
PYDEK_ECOLI	HYPOTHETICAL 65.5 KD PROTEIN	ESCHERICHIA COLI	333-360	524-551	565-592						
PYDNN_BORBU	HYPOTHETICAL 11.2 KD PROTEIN	BORRELIA BURGDORFERI	6-36								
PYDOI_SULSO	HYPOTHETICAL 14.7 KD PROTEIN	SULFOLOBUS SOLFATARICUS	17-58	71-101							
PYDOI_SULSO	HYPOTHETICAL 15.9 KD PROTEIN	SULFOLOBUS SOLFATARICUS	11-38								
PYEBA_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	93-120								
PYEBG_ECOLI	HYPOTHETICAL 19.7 KD PROTEIN	ESCHERICHIA COLI	50-77								
PYEEE_ECOLI	HYPOTHETICAL 38.1 KD PROTEIN	ESCHERICHIA COLI	43-70								
PYEEF_ECOLI	HYPO 49.8 KD TRANSPORT PROTEIN	ESCHERICHIA COLI	147-174								
PYEGA_ECOLI	HYPOTHETICAL IN DCD 3'REGION	ESCHERICHIA COLI	145-172								
PYEHA_ECOLI	HYPOTHETICAL 36.9 KD PROTEIN	ESCHERICHIA COLI	69-106	283-310							
PYEHB_ECOLI	HYPOTHETICAL 93.3 KD PROTEIN	ESCHERICHIA COLI	151-178	301-345							
PYEHD_ECOLI	HYPOTHETICAL 19.1 KD PROTEIN	ESCHERICHIA COLI	96-133								
PYEHF_ECOLI	HYPOTHETICAL 141.0 KD PROTEIN	ESCHERICHIA COLI	343-370								
PYEHI_ECOLI	HYPOTHETICAL 138.1 KD PROTEIN	ESCHERICHIA COLI	35-70	102-129							

PCGENE	1107a1784	Prokaryotic Sequences									
FILENAME	PROTEIN	ORGANISM	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PYERU_ECOLI	HYPOTHETICAL 60 1 KD PROTEIN	ESCHERICHIA COLI	326-353								
PYEIC_ECOLI	HYPOTHETICAL 33 6 KD PROTEIN	ESCHERICHIA COLI	46-80								
PYEIF_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	61-88								
PYEII_ECOLI	HYPOTHETICAL 43 4 KD PROTEIN	ESCHERICHIA COLI	13-42								
PYEJA_ECOLI	HYPOTHETICAL ABC TRANSPORTER	ESCHERICHIA COLI	83-110								
PYEJF_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	453-480								
PYEJO_ECOLI	HYPOTHETICAL 91 2 KD PROTEIN	ESCHERICHIA COLI	399-433								
PYFHD_ECOLI	HYPOTHETICAL 40 6 KD PROTEIN	ESCHERICHIA COLI	175-202								
PYFUJ_BACST	HYPOTHETICAL 30 6 KD PROTEIN	BACILLUS STEAROTHERMOPHILUS	133-160								
PYFXK_BRAJA	HYPOTHETICAL PROTEIN	BRADYRHIZOBIUM JAPONICUM	109-130								
PYGAP_BACME	HYPOTHETICAL 37 7 KD PROTEIN	BACILLUS MEGATERIUM	40-67								
PYGFD_ECOLI	HYPOTHETICAL 29 4 KD PROTEIN	ESCHERICHIA COLI	214-241								
PYGG8_ECOLI	HYPOTHETICAL 30 9 KD PROTEIN	ESCHERICHIA COLI	225-252								
PYGGC_ECOLI	HYPOTHETICAL 31 8 KD PROTEIN	ESCHERICHIA COLI	209-236								
PYGJI_BACTU	HYPOTHETICAL 22 8 KD PROTEIN	BACILLUS THURINGIENSIS	28-61								
PYGJJ_PSEPU	HYPOTHETICAL 33 4 KD PROTEIN	PSEUDOMONAS PUTIDA	145-172								
PYGJF_ECOLI	HYPOTHETICAL 48 4 KD PROTEIN	ESCHERICHIA COLI	223-264								
PYGL4_BACST	HYPOTHETICAL 35 5 KD PROTEIN	BACILLUS STEAROTHERMOPHILUS	6-33								
PYGL5_BACST	HYPOTHETICAL PROTEIN	BACILLUS STEAROTHERMOPHILUS	182-209								
PYGLN_BACCE	HYPOTHETICAL 15 KD PROTEIN	BACILLUS CEREUS	79-124								
PYGRD_BACSU	HYPOTHETICAL PROTEIN	BACILLUS SUBTILIS	20-47								
PYGRE_BACSU	HYPOTHETICAL 17 1 KD PROTEIN	BACILLUS SUBTILIS	84-111								
PYGRP_BACSU	HYPOTHETICAL 39 0 KD PROTEIN	BACILLUS SUBTILIS	98-125								
PYGRR_CLOAB	HYPOTHETICAL 31 8 KD PROTEIN	CLOSTRIDIUM ACETOBUTYLICUM	160-210								
PYGT3_STRMU	HYPOTHETICAL PROTEIN 2	STREPTOCOCCUS MUTANS	4-40	110-138	225-262						
PYHAB_ECOLI	HYPOTHETICAL 30 4 KD PROTEIN	ESCHERICHIA COLI	20-46								
PYHAC_ECOLI	HYPOTHETICAL 45 2 KD PROTEIN	ESCHERICHIA COLI	69-96								
PYHAJ_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	44-71	138-165							
PYHBG_ECOLI	PROBABLE ABC TRANSPORTER	ESCHERICHIA COLI	176-203								
PYHBG_PSEPU	PROBABLE ABC TRANSPORTER	PSEUDOMONAS PUTIDA	74-101	106-133	147-174						
PYHDG_THIFE	PROBABLE ABC TRANSPORTER	THIOBACILLUS FERROOXIDANS	113-140								
PYHDF_ECOLI	HYPOTHETICAL 15 4 KD PROTEIN	ESCHERICHIA COLI	267-307								
PYHEM_BACSU	HYPOTHETICAL 72 0 KD PROTEIN	BACILLUS SUBTILIS	222-255								
PYHET_ANASP	HYPOTHETICAL PROTEIN	ANABAENA SP	72-99								
PYHIA_ECOLI	HYPOTHETICAL 16 6 KD PROTEIN	ESCHERICHIA COLI	56-84								
PYHIG_ECOLI	HYPOTHETICAL 15 1 KD PROTEIN	ESCHERICHIA COLI	43-77								
PYHIH_ECOLI	HYPOTHETICAL 16 5 KD PROTEIN	ESCHERICHIA COLI	43-53								
PYHII_LACLA	HYPOTHETICAL PROTEIN	LACTOCOCCUS LACTIS	167-194								
PYHIJ_LACLA	HYPOTHETICAL 28 0 KD PROTEIN	LACTOCOCCUS LACTIS	96-124	133-159							
PYHIK_LACLA	HYPOTHETICAL 30 7 KD PROTEIN	LACTOCOCCUS LACTIS	92-148								
PYHIL_LACLA	HYPOTHETICAL 30 7 KD PROTEIN	LACTOCOCCUS LACTIS	77-104	136-181							
PYHIN_STAAU	HYPOTHETICAL PROTEIN	STAPHYLOCOCCUS AUREUS	18-67								
PYHLB_VIBCH	HYPOTHETICAL 18 3 KD PROTEIN	VIBRIO CHOLERAE	99-126								
PYHOF_METFE	HYPOTHETICAL 32 2 KD PROTEIN	METHANOTHERMUS FERVIDUS	106-133								
PYHSI_CLOAB	HYPOTHETICAL 11 0 KD PROTEIN	CLOSTRIDIUM ACETOBUTYLICUM	41-83								
PYHSA_CLOAB	HYPOTHETICAL 30 6 KD PROTEIN	CLOSTRIDIUM ACETOBUTYLICUM	98-125								
PYHSF_CLOAB	HYPOTHETICAL 42 4 KD PROTEIN	CLOSTRIDIUM ACETOBUTYLICUM	25-53	208-233	276-310						
PYHVI_LACHE	HYPOTHETICAL PROTEIN	LACTOBACILLUS HELVETICUS	93-120	127-154							
PYHYA_PSESN	HYPOTHETICAL PROTEIN	PSEUDOMONAS SP	217-244								
PYH11_HALHA	HYPOTHETICAL 38 0 KD PROTEIN	HALOBACTERIUM HALOBIUM	245-272								
PYH32_MYCTU	I5986 HYPOTHETICAL 6 6 KD PROTEIN	MYCOBACTERIUM TUBERCULOSIS	19-46								
PYH42_PSEAY	HYPOTHETICAL 42 6 KD PROTEIN	PSEUDOMONAS AMYLODERAMOSA	9-36								
PYH48_METTM	I5911 HYPOTHETICAL 48 3 KD PROTEIN	METHANOBREVIBACTER SMITHII	73-100	134-184	331-365						
PYH52_HALHA	HYPOTHETICAL 31 KD PROTEIN	HALOBACTERIUM HALOBIUM	86-113								
PYH88_ECOLI	HYPOTHETICAL 34 0 KD PROTEIN	ESCHERICHIA COLI	202-239								
PYH8D_ECOLI	HYPOTHETICAL PROTEIN	ESCHERICHIA COLI	9-43								
PYH8F_ECOLI	HYPOTHETICAL 22 6 KD PROTEIN	ESCHERICHIA COLI	131-158								

PCGENE	107a178a4	Prokaryotic Sequences									
FILE NAME	PROTEIN	ORGANISM	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PYIBQ_ECOLI	HYPOTHETICAL 10 1 KD PROTEIN	ESCHERICHIA COLI	70-97								
PYICC_ECOLI	HYPOTHETICAL 33 2 KD PROTEIN	ESCHERICHIA COLI	143-170								
PYICD_ECOLI	HYPOTHETICAL 31 1 KD PROTEIN	ESCHERICHIA COLI	132-159								
PYICH_ECOLI	HYPOTHETICAL 62 3 KD PROTEIN	ESCHERICHIA COLI	408-435								
PYICI_ECOLI	HYPOTHETICAL 88 1 KD PROTEIN	ESCHERICHIA COLI	122-149								
PYICN_ECOLI	HYPOTHETICAL 18 2 KD PROTEIN	ESCHERICHIA COLI	76-103								
PYICO_ECOLI	HYPOTHETICAL 49 9 KD PROTEIN	ESCHERICHIA COLI	320-347								
PYIDB_ECOLI	HYPOTHETICAL 13 8 KD PROTEIN	ESCHERICHIA COLI	34-78								
PYIDE_ECOLI	HYPOTHETICAL 58 9 KD PROTEIN	ESCHERICHIA COLI	86-113	182-209	277-304						
PYIDI_ECOLI	HYPOTHETICAL 13 7 KD PROTEIN	ESCHERICHIA COLI	56-83								
PYIDK_ECOLI	HYPOTHETICAL 62 1 KD PROTEIN	ESCHERICHIA COLI	2-39								
PYIDP_ECOLI	HYPOTHETICAL 27 3 KD PROTEIN	ESCHERICHIA COLI	63-97								
PYIEA_ECOLI	HYPOTHETICAL 49 2 KD PROTEIN	ESCHERICHIA COLI	221-248								
PYIEC_ECOLI	HYPOTHETICAL 60 6 KD PROTEIN	ESCHERICHIA COLI	20-58	270-297							
PYIEC_ERWCH	HYPOTHETICAL PROTEIN	ERWINIA CHRYSANTHEMI	22-67								
PYIED_ECOLI	HYPOTHETICAL 34 8 KD PROTEIN	ESCHERICHIA COLI	86-120								
PYIEG_ECOLI	HYPOTHETICAL 46 9 KD PROTEIN	ESCHERICHIA COLI	293-327								
PYIEH_ECOLI	HYPOTHETICAL 24 7 KD PROTEIN	ESCHERICHIA COLI	51-78								
PYIEM_ECOLI	HYPOTHETICAL 13 0 KD PROTEIN	ESCHERICHIA COLI	77-105								
PYIEO_ECOLI	HYPOTHETICAL 51 3 KD PROTEIN	ESCHERICHIA COLI	201-243	380-407							
PYIFC_ECOLI	HYPOTHETICAL 39 6 KD PROTEIN	ESCHERICHIA COLI	175-202								
PYIGI_ECOLI	HYPOTHETICAL 14 0 KD PROTEIN	ESCHERICHIA COLI	51-92								
PYIGM_ECOLI	HYPOTHETICAL 33 7 KD PROTEIN	ESCHERICHIA COLI	120-154								
PYIGN_ECOLI	HYPOTHETICAL 34 7 KD PROTEIN	ESCHERICHIA COLI	207-234								
PYIGO_ECOLI	HYPOTHETICAL 38 1 KD PROTEIN	ESCHERICHIA COLI	67-94								
PYIGP_ECOLI	HYPOTHETICAL 22 3 KD PROTEIN	ESCHERICHIA COLI	173-200								
PYIGT_ECOLI	HYPOTHETICAL 27 8 KD PROTEIN	ESCHERICHIA COLI	132-159								
PYIHB_ECOLI	HYPOTHETICAL 21 2 KD PROTEIN	ESCHERICHIA COLI	13-40								
PYIHD_ECOLI	HYPOTHETICAL 10 3 KD PROTEIN	ESCHERICHIA COLI	28-55								
PYIHF_ECOLI	HYPOTHETICAL 34 1 KD PROTEIN	ESCHERICHIA COLI	272-306								
PYIHI_ECOLI	HYPOTHETICAL 19 1 KD PROTEIN	ESCHERICHIA COLI	112-139								
PYIHK_ECOLI	HYPOTHETICAL 65.4 KD PROTEIN	ESCHERICHIA COLI	4-31								
PYIHM_ECOLI	HYPOTHETICAL 36.9 KD PROTEIN	ESCHERICHIA COLI	83-110	120-154	297-324						
PYIHO_ECOLI	HYPOTHETICAL 81.8 KD PROTEIN	ESCHERICHIA COLI	612-646								
PYIHP_ECOLI	HYPOTHETICAL 55.1 KD PROTEIN	ESCHERICHIA COLI	357-384								
PYIHV_ECOLI	HYPOTHETICAL 31.9 KD PROTEIN	ESCHERICHIA COLI	72-99								
PYIHX_ECOLI	HYPOTHETICAL 23.5 KD PROTEIN	ESCHERICHIA COLI	9-36								
PYIHZ_ECOLI	HYPOTHETICAL 15.9 KD PROTEIN	ESCHERICHIA COLI	6-33								
PYIIP_ECOLI	HYPOTHETICAL 32.9 KD PROTEIN	ESCHERICHIA COLI	22-63								
PYIIU_ECOLI	HYPOTHETICAL 9.6 KD PROTEIN	ESCHERICHIA COLI	28-71								
PYIJC_ECOLI	HYPOTHETICAL 26.6 KD PROTEIN	ESCHERICHIA COLI	136-163								
PYIJH_ECOLI	HYPOTHETICAL 78.3 KD PROTEIN	ESCHERICHIA COLI	225-263								
PYIJK_ECOLI	HYPOTHETICAL 11.2 KD PROTEIN	ESCHERICHIA COLI	26-53								
PYIJO_ECOLI	HYPOTHETICAL 32.1 KD PROTEIN	ESCHERICHIA COLI	214-241								
PYIJP_ECOLI	HYPOTHETICAL 66.6 KD PROTEIN	ESCHERICHIA COLI	110-137	419-446							
PYIML_LISMO	HYPOTHETICAL 26.8 KD PROTEIN	LISTERIA MONOCYTOGENES	7-34								
PYISI_SHISO	INSERTION ELEMENT IS600	SHIGELLA SONNEI	62-89								
PYISI_STRCO	IS110 HYPOTHETICAL 43.6 KD PROTEIN	STREPTOMYCES COELICOLOR	125-152								
PYISJ_SHISO	INSERTION ELEMENT IS629	SHIGELLA SONNEI	66-100								
PYISP_BACSP	HYPOTHETICAL 42.1 KD PROTEIN	BACILLUS SP	312-339								
PYJAG_ECOLI	HYPOTHETICAL 22.6 KD PROTEIN	ESCHERICHIA COLI	51-78								
PYJAI_ECOLI	HYPOTHETICAL 30.4 KD PROTEIN	ESCHERICHIA COLI	88-122								
PYJBH_ECOLI	HYPOTHETICAL 78.5 KD PROTEIN	ESCHERICHIA COLI	93-120								
PYJBL_ECOLI	HYPOTHETICAL 9.7 KD PROTEIN	ESCHERICHIA COLI	30-57								
PYJBM_ECOLI	HYPOTHETICAL 26.7 KD PROTEIN	ESCHERICHIA COLI	113-149								
PYJBQ_ECOLI	HYPOTHETICAL 15.7 KD PROTEIN	ESCHERICHIA COLI	2-29								
PYJCC_ECOLI	HYPOTHETICAL 60 8 KD PROTEIN	ESCHERICHIA COLI	38-65	414-441	451-492						

PECENE	Prokaryotic Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	ORGANISM									
PYICE_ECOLI	ESCHERICHIA COLI	434-481								
PYICE_ECOLI	ESCHERICHIA COLI	394-421								
PYICO_ECOLI	ESCHERICHIA COLI	91-118								
PYICO_ECOLI	ESCHERICHIA COLI	242-269								
PYICP_ECOLI	ESCHERICHIA COLI	366-396								
PYICS_ECOLI	ESCHERICHIA COLI	50-84								
PYICW_ECOLI	ESCHERICHIA COLI	2-29	451-483							
PYIDA_ECOLI	ESCHERICHIA COLI	103-134								
PYIDB_ECOLI	ESCHERICHIA COLI	55-69	88-129							
PYIJA_ECOLI	ESCHERICHIA COLI	321-355								
PYKAB_BACFI	BACILLUS FIRMUS	47-74								
PYLAI_LACAC	LACTOBACILLUS ACIDOPHILUS	15-42								
PYLAJ_LACAC	LACTOBACILLUS ACIDOPHILUS	47-74								
PYLAC_SULSO	SULFOLOBUS SOLFATARICUS	23-50								
PYLDJ_PSEFU	PSEUDOMONAS PUTIDA	116-213	314-341							
PYLPA_YEREN	YERSINIA ENTEROCOLITICA	184-221								
PYLTJ_ANAVA	ANABAENA VARIABILIS	172-199								
PYLUD_LACLA	LACTOCOCCUS LACTIS	35-70								
PYMB2_BACSU	BACILLUS SUBTILIS	52-79								
PYMGI_MYCGE	MYCOPLASMA GENITALIUM	36-83	139-193	420-445	981-1008					
PYNGA_CLOPE	CLOSTRIDIUM PERFRINGENS	139-166								
PYNGB_CLOPE	CLOSTRIDIUM PERFRINGENS	12-49	63-97	182-211						
PYNI1_METTL	METHANOCOCCUS THERMOLITHOTROPHICUS	53-89								
PYNQI_PAUDE	PARACOCCUS DENITRIFICANS	53-86								
PYNT1_ANASP	ANABAENA SP	171-198								
PYNT3_ANASP	ANABAENA SP	87-165								
PYOHD_ECOLI	ESCHERICHIA COLI	5-32								
PYOHG_ECOLI	ESCHERICHIA COLI	104-171	289-316							
PYOIA_ECOLI	ESCHERICHIA COLI	17-44								
PYOIE_ECOLI	ESCHERICHIA COLI	221-248								
PYOIF_ECOLI	ESCHERICHIA COLI	41-82								
PYOIM_ECOLI	ESCHERICHIA COLI	145-193								
PYOJI_ECOLI	ESCHERICHIA COLI	94-121								
PYOM2_PHOLE	PHOTOBACTERIUM SP	321-59								
PYOPH_YEREN	YERSINIA ENTEROCOLITICA	63-105								
PYOPH_YERPS	YERSINIA PSEUDOTUBERCULOSIS	63-105								
PYOPN_YEREN	YERSINIA ENTEROCOLITICA	23-50	66-93	233-260						
PYOPN_YERPS	YERSINIA PSEUDOTUBERCULOSIS	23-50	66-93	233-260						
PYOPQ_YEREN	YERSINIA ENTEROCOLITICA	61-88								
PYORA_HAEIN	HAEMOPHILUS INFLUENZAE	147-174								
PYORA_LISMO	LISTERIA MONOCYTOGENES	32-77								
PYORA_PYRWO	PYROCOCCUS WOESEI	183-210								
PYORB_HAEIN	HAEMOPHILUS INFLUENZAE	39-66								
PYORC_HAEIN	HAEMOPHILUS INFLUENZAE	49-76								
PYORE_HAEIN	HAEMOPHILUS INFLUENZAE	47-74	81-109							
PYORF_HAEIN	HAEMOPHILUS INFLUENZAE	199-229								
PYORH_HAEIN	HAEMOPHILUS INFLUENZAE	7-34								
PYORI_HAEIN	HAEMOPHILUS INFLUENZAE	416-450	688-722							
PYORQ_BACSU	BACILLUS SUBTILIS	148-175								
PYORX_PYRWO	PYROCOCCUS WOESEI	66-93								
PYORZ_LISMO	LISTERIA MONOCYTOGENES	27-54								
PYP11_STAAU	STAPHYLOCOCCUS AUREUS	71-98	110-137							
PYP11_BACSU	BACILLUS SUBTILIS	57-84								
PYP23_STAAU	STAPHYLOCOCCUS AUREUS	29-70								
PYP2A_STAAU	STAPHYLOCOCCUS AUREUS	34-104								
PYP2B_STAAU	STAPHYLOCOCCUS AUREUS	23-60	62-89	179-206						
PYP2C_STAAU	STAPHYLOCOCCUS AUREUS	13-83	129-176							

PCGENE	1972178x4	Prokaryotic Sequences									
FILE_NAME	PROTEIN	ORGANISM	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PYP7_AGRT4	HYPOTHETICAL PROTEIN 7	AGROBACTERIUM TUMEFACIENS	29-56								
PYPA3_LEGPN	HYPOTHETICAL PROTEIN	LEGIONELLA PNEUMOPHILA	94-135								
PYPA5_ENTFA	HYPOTHETICAL 13 KD PROTEIN	ENTEROCOCCUS FAECALIS	79-106								
PYPA_BACAN	HYPOTHETICAL 21.6 KD PROTEIN	BACILLUS ANTHRACIS	13-47	115-162							
PYPC1_ECOLI	HYPOTHETICAL 37.6 KD PROTEIN	ESCHERICHIA COLI	5-32								
PYPDA_BACSU	HYPOTHETICAL 27.3 KD PROTEIN	BACILLUS SUBTILIS	184-222								
PYPFT_ECOLI	HYPOTHETICAL 12.6 KD PROTEIN	ESCHERICHIA COLI	16-43								
PYPH1_SYNP2	HYPOTHETICAL 18.1 KD PROTEIN	SYNECHOCOCCUS SP	34-61								
PYPI6_CLOPE	HYPOTHETICAL 19.7 KD PROTEIN	CLOSTRIDIUM PERFRINGENS	7-34	41-77	83-149						
PYPI9_CLOPE	HYPOTHETICAL 14.5 KD PROTEIN	CLOSTRIDIUM PERFRINGENS	2-59								
PYPIX_CLOPE	HYPOTHETICAL 38.4 KD PROTEIN	CLOSTRIDIUM PERFRINGENS	110-137	263-290	303-340						
PYPIY_PSEAE	HYPOTHETICAL 36.5 KD PROTEIN	PSEUDOMONAS AERUGINOSA	22-52								
PYPP_BACSU	HYPOTHETICAL PROCESSING PROTEASE	BACILLUS SUBTILIS	329-356								
PYPQQ_KLEPN	HYPOTHETICAL PROTEIN	KLEBSIELLA PNEUMONIAE	243-270								
PYPS2_PLEBO	HYPOTHETICAL 13.1 KD PROTEIN	PLECTONEMA BORYANUM	27-54								
PYPV1_METTF	HYPOTHETICAL 40.7 KD PROTEIN	METHANOBACTERIUM THERMOFORMICICUM	58-85	308-335							
PYPV3_METTF	HYPOTHETICAL 22.5 KD PROTEIN	METHANOBACTERIUM THERMOFORMICICUM	3-30								
PYPV7_METTF	HYPOTHETICAL 17.3 KD PROTEIN	METHANOBACTERIUM THERMOFORMICICUM	69-117								
PYPVB_METTF	HYPOTHETICAL 49.6 KD PROTEIN	METHANOBACTERIUM THERMOFORMICICUM	333-360	389-430							
PYPYB_BACSU	HYPOTHETICAL 72.4 KD PROTEIN	BACILLUS SUBTILIS	602-636								
PYPZ1_METTF	HYPOTHETICAL 40.6 KD PROTEIN	METHANOBACTERIUM THERMOFORMICICUM	58-85	308-335							
PYPZ3_METTF	HYPOTHETICAL 33.1 KD PROTEIN	METHANOBACTERIUM THERMOFORMICICUM	38-65	154-188							
PYPZ5_METTF	HYPOTHETICAL 54.1 KD PROTEIN	METHANOBACTERIUM THERMOFORMICICUM	193-220	226-253	381-408						
PYPZ7_METTF	HYPOTHETICAL 9.7 KD PROTEIN	METHANOBACTERIUM THERMOFORMICICUM	5-78								
PYRI8_THEPE	HYPOTHETICAL 18.7 KD PROTEIN	THERMOFILUM PENDENS	82-109								
PYRB1_HALCU	HYPOTHETICAL 40 KD GTP-BINDING PROTEIN	HALOBACTERIUM CUTIRUBRUM	20-51								
PYREC_SYNP2	HYPOTHETICAL 28.7 KD PROTEIN	SYNECHOCOCCUS SP	49-76								
PYRF0_SALTY	HYPOTHETICAL 40.6 KD PROTEIN	SALMONELLA TYPHIMURIUM	143-190								
PYRF1_SALTY	HYPOTHETICAL 51.0 KD PROTEIN	SALMONELLA TYPHIMURIUM	428-455								
PYRF5_SALTY	HYPOTHETICAL 20.6 KD PROTEIN	SALMONELLA TYPHIMURIUM	29-56								
PYRF6_SALTY	HYPOTHETICAL 36.6 KD PROTEIN	SALMONELLA TYPHIMURIUM	130-157								
PYRG2_LACLA	HYPOTHETICAL PROTEIN	LACTOCOCCUS LACTIS	140-167								
PYRL1_METVA	HYPOTHETICAL PROTEIN	METHANOCOCCUS VANNIELII	40-93	129-156							
PYRP1_METVA	HYPOTHETICAL 11.6 KD PROTEIN	METHANOCOCCUS VANNIELII	13-40								
PYRP2_SULAC	HYPOTHETICAL 11.5 KD PROTEIN	SULFOLOBUS ACIDOCALDARIUS	5-51								
PYRP3_SULAC	HYPOTHETICAL 14.5 KD PROTEIN	SULFOLOBUS ACIDOCALDARIUS	37-71								
PYRTP_BACSU	HYPOTHETICAL 25.3 KD PROTEIN	BACILLUS SUBTILIS	29-56								
PYRTS_BACSU	HYPOTHETICAL 11.4 KD PROTEIN	BACILLUS SUBTILIS	3-30	44-81							
PYSCB_YEREN	HYPOTHETICAL YSC OPERON PROTEIN B	YERSINIA ENTEROCOLITICA	90-121								
PYSCC_YEREN	YSC OPERON PROTEIN C PRECURSOR	YERSINIA ENTEROCOLITICA	38-72	365-399							
PYSCD_YEREN	YSC OPERON PROTEIN D	YERSINIA ENTEROCOLITICA	242-269								
PYSCH_YEREN	YSC OPERON PROTEIN H	YERSINIA ENTEROCOLITICA	28-58								
PYSCH_YERPS	YSC OPERON PROTEIN H	YERSINIA PSEUDOTUBERCULOSIS	28-58								
PYSCI_YEREN	YSC OPERON PROTEIN I	YERSINIA ENTEROCOLITICA	49-76								
PYSCI_YERPS	YSC OPERON PROTEIN I	YERSINIA PSEUDOTUBERCULOSIS	49-76								
PYSCJ_YEREN	YSC OPERON LIPOPROTEIN J PRECURSOR	YERSINIA ENTEROCOLITICA	99-126								
PYSCJ_YERPS	YSC OPERON LIPOPROTEIN J PRECURSOR	YERSINIA PSEUDOTUBERCULOSIS	99-126								
PYSCL_YEREN	YSC OPERON PROTEIN L	YERSINIA ENTEROCOLITICA	41-68								
PYSCL_YERPS	YSC OPERON PROTEIN L	YERSINIA PSEUDOTUBERCULOSIS	41-68								
PYSMA_SERMA	HYPOTHETICAL 9.5 KD PROTEIN	SERRATIA MARCESCENS	11-70								
PYSO2_DESVM	HYPOTHETICAL 28.5 KD PROTEIN	DESULFUROLOBUS AMBIVALENS	68-109								
PYSO3_DESAM	HYPOTHETICAL PROTEIN	DESULFUROLOBUS AMBIVALENS	65-155								
PYSP2_LEPIN	HYPOTHETICAL PROTEIN	LEPTOSPIRA INTERROGANS	6-33	60-94							
PYSR1_MYCMY	HYPOTHETICAL PROTEIN	MYCOPLASMA MYCOIDES	35-99	185-227	300-327						
PYSY3_BACSU	HYPOTHETICAL 19.6 KD PROTEIN	BACILLUS SUBTILIS	72-99								
PYSYN_METFE	HYPOTHETICAL PROTEIN	METHANOTHERMUS FERVIDUS	78-105								
PYTJ7_STRFR	HYPOTHETICAL 37.1 KD PROTEIN	STREPTOMYCES FRADIAE	246-273								

PCGENE	107:1134	Prokaryotic Sequences											
FILE NAME	PROTEIN	ORGANISM	AREA1	AREA1	AREA2	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9	AREA10	AREA11
PYTDK_BACSU	HYPOTHETICAL 35.6 KD PROTEIN	BACILLUS SUBTILIS	244:321	279:306									
PYTNE_LEPBI	HYPOTHETICAL 23 KD PROTEIN	LEPTOSPIRA BIFLEXA	84:113										
PYTIP_LACLA	HYPOTHETICAL 13.3 KD PROTEIN	LACTOCOCCUS LACTIS	76:112										
PYT51_BACSU	HYPOTHETICAL 20 KD PROTEIN	BACILLUS SUBTILIS	37:64										
PYT5F_SPICI	HYPOTHETICAL 23.8 KD PROTEIN	SPIROPLASMA CITRI	102:149										
PYX04_BACSU	HYPOTHETICAL 12.8 KD PROTEIN	BACILLUS SUBTILIS	37:64	61:93									
PYX06_BACSU	HYPOTHETICAL 21.0 KD PROTEIN	BACILLUS SUBTILIS	142:169										
PYX11_BACSU	HYPOTHETICAL 26.0 KD PROTEIN	BACILLUS SUBTILIS	17:51										
PYX13_BACSU	HYPOTHETICAL 61.8 KD PROTEIN	BACILLUS SUBTILIS	165:207	263:289									
PYX18_BACSU	HYPOTHETICAL 64.8 KD PROTEIN	BACILLUS SUBTILIS	3:30	34:61	94:142								
PYX19_BACSU	HYPOTHETICAL 31.7 KD PROTEIN	BACILLUS SUBTILIS	36:83	85:112									
PYX20_BACSU	HYPOTHETICAL 23.3 KD PROTEIN	BACILLUS SUBTILIS	24:58										
PYX12_ANASP	HYPOTHETICAL 18.9 KD PROTEIN	ANABAENA SP	77:104										
PYXYB_CALSA	HYPOTHETICAL 10.7 KD PROTEIN	CALDOCELLUM SACCHAROLYTICUM	9:39										
PYXYC_CALSA	HYPOTHETICAL PROTEIN	CALDOCELLUM SACCHAROLYTICUM	41:94										
PYZE1_ECOLI	HYPOTHETICAL 16.7 KD PROTEIN	ESCHERICHIA COLI	41:78										

TABLE IX

107 X 178 X 4 SEARCH MOTIF RESULTS SUMMARY

FOR ALL HUMAN PROTEINS

PCGENE	1071x1Hit4 Motif Search on All Human Protein Sequences	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA2
FILE NAME	PROTEIN									
P1438_HUMAN	14-3-3 PROTEIN ETA (PROTEIN AS1) (FRAGMENT)	101-135								
P1435_HUMAN	14-3-3 PROTEIN HOMOLOG STRATIFIN	45-72								
P1431_HUMAN	14-3-3 PROTEIN THETA (14-3-3 PROTEIN T-CELL) (1151 PROTEIN)	61-92								
P1432_HUMAN	14-3-3 PROTEIN ZETA (PROTEIN KINASE C INHIBITOR PROTEIN-1) (KCIP-1)	28-55								
P1A23_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, A-23(A-24) A*2401 ALPHA CHAIN	87-114								
P1A24_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, A-24(A-9) A*2402 ALPHA CHAIN	87-114								
P1B07_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-7 B*0702 ALPHA CHAIN	87-114	148-182							
P1B08_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-8 B*1101 ALPHA CHAIN	87-114								
P1B10_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-73(B-13) B*1502 ALPHA CHAIN	84-115								
P1B11_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-72(BW-70) B*1503 ALPHA	84-115								
P1B12_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-62 B*1504 ALPHA CHAIN	76-107								
P1B13_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-18 B*1801 ALPHA CHAIN	84-115								
P1B21_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-35 B*3501 ALPHA CHAIN	84-115								
P1B22_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-22 B*3502 ALPHA CHAIN	84-115								
P1B23_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-23 B*3503 ALPHA CHAIN	84-115								
P1B24_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-21 B*3504 ALPHA CHAIN	76-107								
P1B35_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-31 B*3505 ALPHA CHAIN	84-115								
P1B26_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-33 B*3506 ALPHA CHAIN	84-115								
P1B27_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-35 B*3507 ALPHA CHAIN	84-115								
P1B28_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-35 B*3508 ALPHA CHAIN	84-115								
P1B39_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-37 B*3701 ALPHA CHAIN	88-115								
P1B32_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-39 B*3902 ALPHA CHAIN	87-114								
P1B33_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-60(B-40) B*4001 ALPHA CHAIN	60-91								
P1B34_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-40 B*4002 ALPHA CHAIN	84-115								
P1B35_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-40 B*4003 ALPHA CHAIN	84-115								
P1B36_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-40 B*4004 ALPHA CHAIN	84-115								
P1B38_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-41 B*4101 ALPHA CHAIN	84-115								
P1B39_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-42 B*4201 ALPHA CHAIN	87-114								
P1B40_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-44(B-12) B*4401 ALPHA CHAIN	84-111								
P1B41_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-44(B-13) B*4402 ALPHA CHAIN	87-114								
P1B42_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-44(B-13) B*4403 ALPHA CHAIN	87-114								
P1B43_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-45(B-12) B*4501 ALPHA CHAIN	84-115								
P1B44_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-46 B*4601 ALPHA CHAIN	87-114								
P1B45_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-47 B*4701 ALPHA CHAIN	88-115								
P1B46_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-46 B*4801 ALPHA CHAIN	84-115								
P1B47_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, B-49(B-21) B*4901 ALPHA CHAIN	87-114								
P1B48_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-50(B-21) B*5001 ALPHA CHAIN	84-115								
P1B51_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-52(B-5) B*5201 ALPHA CHAIN	87-114								
P1B55_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-54(BW-22) B*5401 ALPHA	87-114								
P1B56_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-56(BW-22) B*5601 ALPHA	87-114								
P1B57_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-57(BW-22) B*5702 ALPHA	87-114								
P1B58_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-58(BW-22) B*5801 ALPHA	87-114								
P1B59_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, BW-58(BW-22) B*5802 ALPHA	87-114								
P1C01_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, CW-1 CW*0101 ALPHA CHAIN	87-114								
P1C02_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, CW-1 CW*0102 ALPHA CHAIN	87-114								
P1C03_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, CW-3 CW*0301 ALPHA CHAIN	87-114								
P1C04_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, CW-3 CW*0302 ALPHA CHAIN	87-114								
P1C06_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, CW-3 CW*0303 ALPHA CHAIN	87-114								
P1C12_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, CW-4 CW*0401 ALPHA CHAIN	87-114								
P1C13_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, CW-3 CW*0403 ALPHA CHAIN	87-114								
P1C14_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, CW-4 CW*0403 ALPHA CHAIN	87-114								
P1C17_HUMAN	HLA CLASS I HISTOCOMPATIBILITY ANTIGEN, CW*1401 ALPHA CHAIN PRECURSOR	57-114								
P1A4_HUMAN	69/71 KD (7.5)OLIGOADENYLATE SYNTHETASE	193-420								
P2A1A_HUMAN	PROTEIN PHOSPHATASE PP2A, 65 KD REGULATORY SUBUNIT, ALPHA ISOFORM	12-49	34-81							
P2A1B_HUMAN	PROTEIN PHOSPHATASE PP2A, 65 KD REGULATORY SUBUNIT, BETA ISOFORM	9-36	41-68	79-106						
P2A2A_HUMAN	PROTEIN PHOSPHATASE PP2A, 55 KD REGULATORY SUBUNIT, ALPHA ISOFORM	177-218								
P41T_HUMAN	ERYTHROID PROTEIN 4.1 (BAND 4.1, ERYTHROCYTE FORM)	32-66								

PCGENE	107x178x4 Motif Search on All Human Protein Sequences									
FILE NAME	PROTEIN	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
P412_HUMAN	NON-ERYTHROID PROTEIN 4 1 (BAND 4 1, LYMPHOID FORM)	3-30	708-735							
P42_HUMAN	ERYTHROCYTE MEMBRANE PROTEIN BAND 4 2	173-200	518-545							
P4F2_HUMAN	4F2 CELL-SURFACE ANTIGEN HEAVY CHAIN (4F2HC) (LYMPHOCYTE ACTIVATION	281-322								
P5HIE_HUMAN	5-HYDROXYTRYPTAMINE 1E RECEPTOR (5-HT-1E) (SEROTONIN RECEPTOR)	311-338								
P5HIF_HUMAN	5-HYDROXYTRYPTAMINE 1F RECEPTOR (5-HT-1F) (SEROTONIN RECEPTOR).	222-253								
P5H2A_HUMAN	5-HYDROXYTRYPTAMINE 2A RECEPTOR (5-HT-2A) (SEROTONIN RECEPTOR)	22-56								
P5H7_HUMAN	5-HYDROXYTRYPTAMINE 7 RECEPTOR (5-HT-7) (5-HT-X) (SEROTONIN RECEPTOR)	72-99								
PA1AC_HUMAN	ALPHA-1-ANTICHYMOTRYPSIN PRECURSOR (ACT).	98-132	330-357							
PA1AO_HUMAN	ALPHA-1-ACID GLYCOPROTEIN 1 PRECURSOR (OROSOMUCOID) (ORD).	92-119								
PA1AT_HUMAN	ALPHA-1-ANTITRYPSIN PRECURSOR (ALPHA-1 PROTEASE INHIBITOR) (ALPHA-1-	168-202								
PA1AU_HUMAN	ALPHA-1-ANTITRYPSIN-RELATED PROTEIN PRECURSOR.	163-197								
PA2AP_HUMAN	ALPHA-2-ANTIPLASMIN PRECURSOR (ALPHA-2-PLASMIN INHIBITOR) (ALPHA-2-	191-218	365-395							
PA2GL_HUMAN	LEUCINE-RICH ALPHA-2-GLYCOPROTEIN (LRG).	104-131								
PA2MG_HUMAN	ALPHA-2-MACROGLOBULIN PRECURSOR (ALPHA-2-M)	53-80	319-349	1085-1112	1402-1429					
PA4_HUMAN	ALZHEIMER'S DISEASE AMYLOID A4 PROTEIN PRECURSOR (PROTEASE NEXIN-II)	428-455								
PAACT_HUMAN	ALPHA-ACTININ (F-ACTIN CROSS LINKING PROTEIN)	92-119	720-747							
PAATM_HUMAN	ASPARTATE AMINOTRANSFERASE, MITOCHONDRIAL PRECURSOR (EC 2 6 1 1)	109-136								
PABP2_HUMAN	ENDOTHELIAL ACTIN-BINDING PROTEIN (ABP-280) (NONMUSCLE FILAMIN)	61-88	119-147	2604-2633						
PAC13_HUMAN	ACTIVATOR 1 37 KD SUBUNIT (REPLICATION FACTOR C 37 KD SUBUNIT) (A1	306-333								
PAC1S_HUMAN	ACTIVATOR 1 140 KD SUBUNIT (REPLICATION FACTOR C LARGE SUBUNIT) (A1	14-51	182-209	668-700						
PACDL_HUMAN	ACYL-COA DEHYDROGENASE PRECURSOR, LONG-CHAIN SPECIFIC (EC 1 3 99 13)	78-108	179-206	313-340						
PACET_HUMAN	ANGIOTENSIN-CONVERTING ENZYME PRECURSOR, TESTIS-SPECIFIC (EC 3 4 15 1)	78-115	126-153	676-710						
PACE_HUMAN	ANGIOTENSIN-CONVERTING ENZYME PRECURSOR, SOMATIC (EC 3 4 15.1) (ACE)	652-689	700-727	1250-1284						
PACHA_HUMAN	ACETYLCHOLINE RECEPTOR PROTEIN, ALPHA CHAIN PRECURSOR	48-80								
PACHE_HUMAN	ACETYLCHOLINE RECEPTOR PROTEIN, EPSILON CHAIN PRECURSOR	46-98								
PACHG_HUMAN	ACETYLCHOLINE RECEPTOR PROTEIN, GAMMA CHAIN PRECURSOR	45-79	304-331							
PACHP_HUMAN	NEURONAL ACETYLCHOLINE RECEPTOR PROTEIN, BETA-4 CHAIN (FRAGMENT)	29-56	70-97							
PACRO_HUMAN	ACROSIN PRECURSOR (EC 3.4.21.10).	122-149								
PACYM_HUMA	ACYLPHOSPHATASE, MUSCLE TYPE ISOZYME (EC 3 6.1.7) (ACYLPHOSPHATE	26-53								
PADT2_HUMAN	ADP,ATP CARRIER PROTEIN, FIBROBLAST ISOFORM (ADP/ATP TRANSLOCASE 2)	162-189								
PADT3_HUMAN	ADP,ATP CARRIER PROTEIN, LIVER ISOFORM T3 (ADP/ATP TRANSLOCASE 3)	163-190								
PAK79_HUMAN	A-KINASE ANCHOR PROTEIN 79 (AKAP 79) (CAMP-DEPENDENT PROTEIN KINASE	197-238	381-414							
PALFA_HUMAN	FRUCTOSE-BISPHOSPHATE ALDOLASE (EC 4 1 2.13) A (MUSCLE)	36-63								
PALFB_HUMAN	FRUCTOSE-BISPHOSPHATE ALDOLASE (EC 4.1 2 13) B (LIVER)	79-113								
PAMD1_HUMAN	AMP DEAMINASE 1 (EC 3.5.4.6) (MYOADENYLATE DEAMINASE) (AMP DEAMINASE	59-86								
PAMD3_HUMAN	AMP DEAMINASE 3 (EC 3.5.4.6) (AMP DEAMINASE ISOFORM E).	49-76								
PAMPN_HUMAN	AMINOPEPTIDASE N (EC 3.4.11.2) (MICROSOMAL AMINOPEPTIDASE) (GP150)	492-523	604-648	926-964						
PAMPR_HUMAN	AMPHIREGULIN PRECURSOR (AR).	213-247								
PAMRP_HUMAN	ALPHA-2-MACROGLOBULIN RECEPTOR-ASSOCIATED PROTEIN PRECURSOR	173-236	263-290							
PANFB_HUMAN	BRAIN NATRIURETIC PEPTIDE PRECURSOR	36-63								
PANK1_HUMAN	ANKYRIN R (ANKYRINS 2.1 AND 2.2) (ERYTHROCYTE ANKYRIN).	812-839	1004-1031	1617-1644						
PANKB_HUMAN	ANKYRIN, BRAIN VARIANT 1 (ANKYRIN B) (ANKYRIN, NONERYTHROID)	1544-1571								
PANKC_HUMAN	ANKYRIN, BRAIN VARIANT 2 (ANKYRIN B) (ANKYRIN, NONERYTHROID)	1811-1838								
PANPA_HUMAN	ATRIAL NATRIURETIC PEPTIDE RECEPTOR A PRECURSOR (ANP-A) (ANPRA) (GC-A)	553-580	825-852							
PANPB_HUMAN	ATRIAL NATRIURETIC PEPTIDE RECEPTOR B PRECURSOR (ANP-B) (ANPRB) (GC-B)	810-837								
PANT3_HUMAN	ANTITHROMBIN-III PRECURSOR (ATIII).	162-196								
PANX2_HUMAN	ANNEXIN II (LIPOCORTIN II) (CALPACTIN I HEAVY CHAIN) (CHROMOBINDIN 8)	40-67	306-333							
PANX3_HUMAN	ANNEXIN III (LIPOCORTIN III) (PLACENTAL ANTICOAGULANT PROTEIN III)	215-242								
PANX6_HUMAN	ANNEXIN VI (LIPOCORTIN VI) (P68) (P70) (PROTEIN III) (CHROMOBINDIN 20)	60-87	626-653							
PANX7_HUMAN	ANNEXIN, INTESTINE-SPECIFIC (ISA).	37-78	137-164							
PAOFA_HUMAN	AMINE OXIDASE (FLAVIN-CONTAINING) A (EC 1 4 3 4) (MONOAMINE OXIDASE)	16-43	74-104							
PAOFB_HUMAN	AMINE OXIDASE (FLAVIN-CONTAINING) B (EC 1 4 3 4) (MONOAMINE OXIDASE)	68-95								
PAPA1_HUMAN	APOLIPOPROTEIN A-I PRECURSOR (APO-AI).	57-84								
PAPB_HUMAN	APOLIPOPROTEIN B-100 PRECURSOR (APO B-100/APO B-48).	585-619	1073-1100	1353-1380	1524-1584	2074-2113	2132-2159	2181-2215	2240-2271	2360-2389
		2466-2507	2529-2559	2850-3000	3360-3390	3480-3570	3620-3654	4040-4074	4090-4120	4135-4167
		4274-4301	4297-4438	4465-4492	4490-4544					

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HUMAPO	APOLIPOPROTEIN C-II PRECURSOR (APO-CII)	36-63								
HUMAPC	ADENOMATOUS POLYPOSIS COLI PROTEIN (APC PROTEIN)	145-172	617-651	834-861	1795-1822	2172-2212	2372-2609			
HUMAPE	APOLIPOPROTEIN E PRECURSOR (APO-E)	41-81	247-274							
HUMAPOA	APOLIPOPROTEIN(A) PRECURSOR (EC 3.4.21.-) (APO(A)) (LPA)	4448-4475								
HUMAQP1	AQUAPORIN-CHIP (WATER CHANNEL PROTEIN FOR RED BLOOD CELLS AND KIDNEY	39-73								
HUMARK	BETA-ADRENERGIC RECEPTOR KINASE 1 (EC 2.7.1.126) (BETA-ARK-1)	552-593								
HUMARY	ARGININOSUCCINATE LYASE (EC 4.3.2.1) (ARGINOSUCCINASE)	69-102								
HUMART	ADP-RIBOSYLATION FACTOR-LIKE PROTEIN 1.	215-241	303-332							
HUMARC	ARRESTIN (RETINAL S-ANTIGEN) (48 KD PROTEIN) (S-AG)	299-332								
HUMAT1	ARYLAMINE N-ACETYLTRANSFERASE, MONOMORPHIC (EC 2.3.1.5) (NAT)	7-34								
HUMAT2	ARYLAMINE N-ACETYLTRANSFERASE, POLYMORPHIC (EC 2.3.1.5) (PNAT)	7-34								
HUMASNS	ASPARAGINE SYNTHETASE (GLUTAMINE-HYDROLYZING) (EC 6.3.5.4) (TS11 CELL	111-138	347-374							
HUMATCD	CALCIUM-TRANSPORTING ATPASE SARCOPLASMIC RETICULUM TYPE (EC 3.6.1.38).	163-190								
HUMATCE	CALCIUM-TRANSPORTING ATPASE ENDOPLASMIC RETICULUM TYPE (EC 3.6.1.38).	163-190	223-250							
HUMATF1	TRANSCRIPTION FACTOR ATF-1 (FRAGMENT)	201-230								
HUMATF3	TRANSCRIPTION FACTOR ATF-3 (FRAGMENT)	135-183								
HUMATF5	TRANSCRIPTION FACTOR ATF-5 (FRAGMENT)	20-41								
HUMATF6	TRANSCRIPTION FACTOR ATF-6 (FRAGMENT).	34-68								
HUMATFA	TRANSCRIPTION FACTOR ATF-A AND ATF-A-DELTA	331-394								
HUMATPF	ATP SYNTHASE B CHAIN, MITOCHONDRIAL PRECURSOR (EC 3.6.1.34).	129-163								
HUMB33	NUCLEOLAR PHOSPHOPROTEIN B23 (NUCLEOPHOSMIN) (NUMATRIN)	114-141								
HUMBAR	BETA-2-ADRENERGIC RECEPTOR.	292-319	343-372							
HUMBAG	ANION EXCHANGE PROTEIN 3 (NON-ERYTHROID BAND 3-LIKE PROTEIN) (BND3L)	1081-1111								
HUMBB4	B94 PROTEIN.	115-142	525-562	609-636						
HUMBNT	ERYTHROCYTE BAND 7 INTEGRAL MEMBRANE PROTEIN	106-140								
HUMBGO	BASONUCLIN	120-147	310-337	773-807						
HUMCIB	TRANSFORMING PROTEIN BCL-3 BETA	178-205								
HUMCGF	B-CELL GROWTH FACTOR PRECURSOR (BCGF-II) (CLL)	33-63								
HUMCBR	BREAKPOINT CLUSTER REGION PROTEIN.	784-825								
HUMGLA	BETA-GLUCURONIDASE PRECURSOR (EC 3.2.1.31).	246-280	504-531							
HUMMP1	BONE MORPHOGENETIC PROTEIN 1 PRECURSOR (BMP-1) (BMP-1A)	216-250								
HUMBP3	BONE MORPHOGENETIC PROTEIN 3 PRECURSOR (BMP-3)	203-239								
HUMBP4	BONE MORPHOGENETIC PROTEIN 4 PRECURSOR (BMP-4)	274-301								
HUMBP7	BONE MORPHOGENETIC PROTEIN 7 PRECURSOR (BMP-7) (OSTEOGENIC PROTEIN 1)	192-219								
HUMBN1	BN1 PROTEIN.	284-311								
HUMBPI	BACTERICIDAL PERMEABILITY INCREASING PROTEIN PRECURSOR (BPI) (CAP 57).	168-195								
HUMBS3	BOMBESIN RECEPTOR SUBTYPE-3 (BRS-3)	10-37								
HUMBTF	BASIC TRANSCRIPTION FACTOR 68 KD SUBUNIT (NAC).	128-162	333-385							
HUMBTG1	BTG1 PROTEIN (B-CELL TRANSLOCATION GENE 1 PROTEIN).	26-53								
HUMC1T	C1-TETRAHYDROFOLATE SYNTHASE, CYTOPLASMIC (METHYLENETETRAHYDROFO	330-363								
HUMCTA	MHC CLASS II TRANSACTIVATOR CIITA.	921-948								
HUMCA9	COLLAGEN ALPHA 1(IX) CHAIN PRECURSOR.	120-150								
HUMCA1B	COLLAGEN ALPHA 1(XI) CHAIN PRECURSOR.	341-368								
HUMCABV	CALBINDIN (VITAMIN D-DEPENDENT CALCIUM-BINDING PROTEIN (CABP), AVIAN-	27-54								
HUMCAD3	CADHERIN 3 PRECURSOR (P-CAM ANTIGEN)	723-750								
HUMCDE	EPITHELIAL-CADHERIN PRECURSOR (E-CADHERIN) (UVOMORULIN) (CAM 120/80)	838-865								
HUMCDN	NEURAL-CADHERIN 1 PRECURSOR (N-CADHERIN)	95-122	333-360							
HUMCDP	PLACENTAL-CADHERIN PRECURSOR (P-CADHERIN).	384-411	580-607							
HUMCAG	CALGRANULIN A (MIGRATION INHIBITORY FACTOR-RELATED PROTEIN 8) (MRP-8)	2-29								
HUMCLA	CALCITONIN RECEPTOR PRECURSOR (CT-R)	140-167								
HUMCMA	CARTILAGE MATRIX PROTEIN PRECURSOR.	297-324	467-494							
HUMCAP1	CALPAIN 1, LARGE (CATALYTIC) SUBUNIT (EC 3.4.22.17) (CALCIUM-ACTIVATED	561-588								
HUMCAP2	CALPAIN 2, LARGE (CATALYTIC) SUBUNIT (EC 3.4.22.17) (CALCIUM-ACTIVATED	257-284	502-529							
HUMCAP3	CALPAIN P94, LARGE (CATALYTIC) SUBUNIT (EC 3.4.22.17) (CALCIUM-	674-701								
HUMCBP	PLACENTAL CALCIUM-BINDING PROTEIN	13-40								
HUMCAP	ADENYLYL CYCLASE-ASSOCIATED PROTEIN (CAP)	111-138	163-197	321-355						

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FILE NAME	PROTEIN	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9	AREA10
PCART_HUMAN	CALRETININ (39 KD CALBINDIN)	217-244									
PCASB_HUMAN	BETA CASEIN PRECURSOR.	14-48									
PCATA_HUMAN	CATALASE (EC 1.11.1.6)	422-456									
PCATD_HUMAN	CATHEPSIN D PRECURSOR (EC 3.4.23.5)	253-282									
PCATH_HUMAN	CATHEPSIN H PRECURSOR (EC 3.4.22.16)	41-68									
PCATL_HUMAN	CATHEPSIN L PRECURSOR (EC 3.4.22.15) (MAJOR EXCRETED PROTEIN) (MEP)	278-305									
PCATS_HUMAN	CATHEPSIN S PRECURSOR (EC 3.4.22.27)	36-57	142-169								
PCBFB_HUMAN	CCAAT-BINDING TRANSCRIPTION FACTOR SUBUNIT B (CBF-B) (NF-Y PROTEIN	24-58	138-165								
PCBG_HUMAN	CORTICOSTEROID-BINDING GLOBULIN PRECURSOR (CBG) (TRANSCORTIN)	88-122									
PCBPB_HUMAN	CARBOXYPEPTIDASE B PRECURSOR (EC 3.4.17.2) (PANCREAS-SPECIFIC PROTEIN)	69-129	278-305	319-346							
PCBPH_HUMAN	CARBOXYPEPTIDASE H PRECURSOR (EC 3.4.17.10) (CARBOXYPEPTIDASE E) (CPE)	155-182									
PCD11_HUMAN	CD21 HOMOLOG (P1-CDC21) (FRAGMENT)	33-62									
PCD7_HUMAN	PROTEIN CD27HS.	209-240									
PCD81_HUMAN	TRANSCRIPTION INITIATION FACTOR TFIID 250 KD SUBUNIT (TBP-ASSOCIATED	1390-1342									
PCD14_HUMAN	MONOCYTE DIFFERENTIATION ANTIGEN CD14 PRECURSOR (MYELOID CELL-SPECIF	142-169									
PCD1A_HUMAN	T-CELL SURFACE GLYCOPROTEIN CD1A PRECURSOR (CD1A ANTIGEN) (T-CELL	31-63	281-308								
PCD1E_HUMAN	T-CELL SURFACE GLYCOPROTEIN CD1E PRECURSOR (CD1E ANTIGEN) (R2G1)	77-104									
PCD20_HUMAN	B-LYMPHOCYTE ANTIGEN CD20 (B-LYMPHOCYTE SURFACE ANTIGEN B1) (LEU-16)	226-255									
PCD22_HUMAN	CD22 RECEPTOR PRECURSOR.	226-255									
PCD3_HUMAN	T-CELL SURFACE ANTIGEN CD3 PRECURSOR (T-CELL SURFACE ANTIGEN	88-119									
PCD34_HUMAN	HEMOPOIETIC PROGENITOR CELL ANTIGEN CD34 PRECURSOR.	74-108									
PCD37_HUMAN	LEUKOCYTE ANTIGEN CD37.	101-128									
PCD3D_HUMAN	T-CELL SURFACE GLYCOPROTEIN CD3 GAMMA CHAIN PRECURSOR (T-CELL RECEPT	7-34									
PCD3L_HUMAN	CD30 LIGAND (CD30-L)	96-130	183-217								
PCD4X_HUMAN	CD4 ANTIGEN, EPITHELIAL FORM PRECURSOR (CD4B) (PHAGOCYTIC	328-355									
PCD4_HUMAN	T-CELL SURFACE GLYCOPROTEIN CD4 PRECURSOR (T-CELL SURFACE ANTIGEN	44-71	240-267								
PCD5_HUMAN	LEUKOCYTE SURFACE ANTIGEN CD5.	87-114									
PCD72_HUMAN	B-CELL DIFFERENTIATION ANTIGEN CD72 (LYB-2)	118-177									
PCDK3_HUMAN	CELL DIVISION PROTEIN KINASE 3 (EC 2.7.1.-)	5-32									
PCDK5_HUMAN	CELL DIVISION PROTEIN KINASE 5 (EC 2.7.1.-) (KINASE PSSALRE)	5-32									
PCEBB_HUMAN	CCAAT/ENHANCER BINDING PROTEIN BETA (C/EBP BETA) (NUCLEAR FACTOR	296-330									
PCENB_HUMAN	MAJOR CENTROMERE AUTOANTIGEN B (CENTROMERE PROTEIN B) (CENP-B)	568-595									
PCENC_HUMAN	CENTROMERE PROTEIN C (CENP-C) (CENTROMERE AUTOANTIGEN C)	413-460									
PCENE_HUMAN	CENTROMERIC PROTEIN E (CENP-E PROTEIN)	372-399	493-520	553-607	715-752	767-825	850-884	903-947	963-995	1080-1107	
		1122-1149	1179-1239	1256-1277	1340-1367	1440-1481	1486-1536	1648-1680	1684-1724	1808-1846	
		1852-1883	1890-1917	1940-1988	2021-2048	2288-2318	2440-2478	2498-2563			
PCERU_HUMAN	CERULOPLASMIN PRECURSOR (EC 1.16.3.1) (FERROXIDASE).	913-940									
PCETP_HUMAN	CHOLESTERYL ESTER TRANSFER PROTEIN PRECURSOR.	71-101									
PCFTR_HUMAN	CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR (CFTR)	158-189	802-829	895-922	1241-1270						
PCGCC_HUMAN	CGMP-GATED CATION CHANNEL PROTEIN (CYCLIC NUCLEOTIDE	218-243									
PCGL_HUMAN	CYSTATHIONINE GAMMA-LYASE (EC 4.4.1.1).	315-349									
PCHLR_HUMAN	CHLORADECONE REDUCTASE (EC 1.1.1.225) (CDR)	17-51									
PCHOL_HUMAN	CHORIODEREMIA-LIKE PROTEIN.	56-97	230-257	451-478							
PCHOR_HUMAN	CHORIODEREMIA PROTEIN (TCD PROTEIN)	113-139									
PCNA_HUMAN	SODIUM CHANNEL PROTEIN, CARDIAC AND SKELETAL MUSCLE ALPHA-SUBUNIT	787-814	943-970								
PCLCA_HUMAN	CLATHRIN LIGHT CHAIN A (BRAIN AND LYMPHOCYTE LCA)	121-148									
PCLCB_HUMAN	CLATHRIN LIGHT CHAIN B (BRAIN AND LYMPHOCYTE LCB)	123-157									
PCLCY_HUMAN	CALCYCLIN (PROLACTIN RECEPTOR ASSOCIATED PROTEIN) (PRA) (GROWTH	9-50									
PCLUS_HUMAN	CLUSTERIN PRECURSOR (COMPLEMENT-ASSOCIATED PROTEIN SP-40,40)	36-98	323-350	367-394							
PCMGA_HUMA	CHROMOGRANIN A PRECURSOR (CGA) (CONTAINS: PANCREASTATIN AND WE-14)	93-120	430-457								
PCNTF_HUMAN	CILIARY NEUROTROPHIC FACTOR (CNTF).	64-93									
PCOD2_HUMAN	TUMOR-ASSOCIATED ANTIGEN CO-029	29-56	95-148								
PCO3_HUMAN	COMPLEMENT C3 PRECURSOR.	242-276	593-620	837-867							
PCO4_HUMAN	COMPLEMENT C4 PRECURSOR.	1292-1319									
PCO5_HUMAN	COMPLEMENT C5 PRECURSOR.	298-342	537-564	970-997	1270-1304						
PCO6_HUMAN	COMPLEMENT C6 PRECURSOR.	367-398									
PCO7_HUMAN	COMPLEMENT C7 PRECURSOR.	221-261									

PCGENE	1071:1716 of Motif Search on All Human Protein Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE_NAME	PROTEIN									
PCOX1_HUMAN	CYTOCHROME C OXIDASE POLYPEPTIDE I (EC 1.9.3.1)	333-380								
PCP7A_HUMAN	CYTOCHROME P450 VII (CHOLESTEROL 7-ALPHA-MONOOXYGENASE)	263-290	346-373							
PCPCH_HUMAN	CYTOCHROME P450 IIC17 (EC 1.14.14.1) (P450-234C) (FRAGMENT)	109-136								
PCPE1_HUMAN	CYTOCHROME P450 IIE1 (EC 1.14.14.1) (P450-J) (ETHANOL INDUCIBLE)	231-258								
PCPSM_HUMAN	CARBAMOYL-PHOSPHATE SYNTHASE (AMMONIA) MITOCHONDRIAL PRECURSOR	112-146	420-447							
PCP17_HUMAN	MITOCHONDRIAL CARNITINE PALMITOYLTRANSFERASE II PRECURSOR	410-437								
PCP17_HUMAN	CYTOCHROME P450 XVIA1 (P450-C17) (EC 1.14.99.9) (STEROID 17-ALPHA-	226-253								
PCYV1_HUMAN	CYTOCHROME P450 XIX A1 (AROMATASE) (EC 1.14.14.1) (ESTROGEN	234-271								
PCLC4_HUMAN	COMPLEMENT RECEPTOR TYPE 2 PRECURSOR (CR2) (COMPLEMENT C3D RECEPTOR)	906-1013								
PCLC4_HUMAN	COLORECTAL MUTANT CANCER PROTEIN (MCC PROTEIN)	68-126	379-420	633-678	724-754	763-790				
PCRE5_HUMAN	CAMP RESPONSE ELEMENT BINDING PROTEINS A AND B (CREB-A AND CREB-B)	94-121								
PCRE_HUMAN	CAMP RESPONSE ELEMENT BINDING PROTEIN CRE-BP1	330-414								
PCRP_HUMAN	C-REACTIVE PROTEIN PRECURSOR	60-87	150-177							
PCST_HUMAN	CLEAVAGE SIGNAL-1 PROTEIN (CS-1)	203-233								
PCSF1_HUMAN	MACROPHAGE COLONY STIMULATING FACTOR-1 PRECURSOR (CSF-1) (M-CSF)	143-170								
PCSTD_HUMAN	CLEAVAGE STIMULATION FACTOR, 50 KD SUBUNIT (CSTF 50 KD SUBUNIT) (CF-I	6-33								
PCTNA_HUMAN	ALPHA-CATENIN (CADHERIN-ASSOCIATED PROTEIN)	681-718								
PCTNR_HUMAN	ALPHA-CATENIN RELATED PROTEIN (CATENIN ALPHA-2)	680-717								
PCX26_HUMAN	GAP JUNCTION BETA-2 PROTEIN (CONNEXIN 26) (CX26)	108-139								
PCX32_HUMAN	GAP JUNCTION BETA-1 PROTEIN (CONNEXIN 32) (CX32) (GAP JUNCTION 28 KD	117-144								
PCX37_HUMAN	GAP JUNCTION ALPHA-4 PROTEIN (CONNEXIN 37) (CX37)	88-115								
PCYB5_HUMAN	CYTOCHROME B5	3-42								
PCYG1_HUMAN	GUANYLATE CYCLASE SOLUBLE, BETA-1 CHAIN (EC 4.6.1.2) (70 KD CHAIN)	80-107	126-153	353-396						
PCYG4_HUMAN	GUANYLATE CYCLASE SOLUBLE, ALPHA-2 CHAIN (EC 4.6.1.2)	106-133								
PCYGR_HUMAN	RETINAL GUANYLYL CYCLASE PRECURSOR (EC 4.6.1.2)	824-851								
PCYTO_HUMAN	CYTOKINE RECEPTOR COMMON GAMMA CHAIN PRECURSOR (GAMMA-C)	290-320								
PCYTA_HUMAN	CYSTATIN A (STEFIN A) (CYSTATIN AS)	27-54								
PDBL_HUMAN	PROTO-ONCOGENE DBL PRECURSOR (CONTAINS MCF2)	333-383	485-524	766-793	801-845					
PDESM_HUMAN	DESMIN	153-180	272-312							
PDESP_HUMAN	DESMOPLAKIN I AND II (DPI AND DPII) (FRAGMENT)	31-79	113-143	217-244	269-317	382-434	437-467	528-558	563-598	630-674
		697-724	738-789	1436-1493	1508-1535					
PDHAP_HUMAN	ALDEHYDE DEHYDROGENASE, DIMERIC NADP-PREFERRING (EC 1.2.1.5)	31-58								
PDMD_HUMAN	DYSTROPHIN	86-116	338-365	484-511	735-760	976-1003	1012-1039	1201-1228	1364-1394	1615-1674
		1838-1865	2158-2185	2311-2340	2732-2779	2786-2830	2912-2958	3014-3041	3499-3533	
PDNJ1_HUMAN	DNAJ PROTEIN HOMOLOG	43-76								
PDNL1_HUMAN	DNA LIGASE (EC 6.5.1.1) (POLYDEOXYRIBONUCLEOTIDE SYNTHASE (ATP))	130-157	355-392	732-759						
PDPOA_HUMAN	DNA POLYMERASE ALPHA (EC 2.7.7.7)	25-74	1009-1057	1100-1127						
PDPOD_HUMAN	DNA POLYMERASE DELTA CATALYTIC CHAIN (EC 2.7.7.7)	729-756								
PDPP4_HUMAN	DIPEPTIDYL PEPTIDASE IV (EC 3.4.14.5) (DPP IV) (T-CELL ACTIVATION	29-77	114-148							
PDUN1_HUMAN	DEOXYRIBONUCLEASE I PRECURSOR (EC 3.1.21.1) (DNASE I)	44-71								
PDSC1_HUMAN	DESMOCOLLIN 3A/3B PRECURSOR (DESMOSOMAL GLYCOPROTEIN II AND III)	80-107	335-398							
PDSG1_HUMAN	DESMOGLEIN I PRECURSOR (DESMOSOMAL GLYCOPROTEIN 1) (DG1)	15-42	271-298	497-531						
PDSG3_HUMAN	DESMOGLEIN 3 PRECURSOR (130 KD PEMPHIGUS VULGARIS ANTIGEN) (PVA)	211-248	325-352							
PDUO_HUMAN	DIVERGENT UPSTREAM PROTEIN (DUP)	384-418								
PEAR1_HUMAN	V-ERBA RELATED PROTEIN EAR-1.	523-550								
PEBI2_HUMAN	EBV-INDUCED G PROTEIN-COUPLED RECEPTOR 2 (EBI2)	44-78								
PEF1B_HUMAN	ELONGATION FACTOR 1-BETA (EF-1-BETA)	105-132								
PEF1D_HUMAN	ELONGATION FACTOR 1-DELTA (EF-1-DELTA)	84-118								
PEGFR_HUMAN	EPIDERMAL GROWTH FACTOR RECEPTOR PRECURSOR (EC 2.7.1.112)	64-91	440-467							
PEGF_HUMAN	EPIDERMAL GROWTH FACTOR PRECURSOR, KIDNEY (EGF) (UROGASTRONE)	47-74								
PELF1_HUMAN	ETS-RELATED TRANSCRIPTION FACTOR ELF-1.	551-588								
PENPL_HUMAN	ENDOPLASMIN PRECURSOR (94 KD GLUCOSE-REGULATED PROTEIN) (GRP94) (GP96	47-74	246-273							
PENV1_HUMAN	RETROVIRUS-RELATED ENV POLYPROTEIN	382-420								
PEPC_HUMAN	IG EPSILON CHAIN C REGION.	101-128								
PEPHD_HUMAN	EPHD ORPHDN.	13-43	67-94	240-283						
PER72_HUMAN	PROTEIN DISULFIDE ISOMERASE-RELATED PROTEIN PRECURSOR (ER-72)	58-85	143-169	438-485						
PERCI_HUMAN	DNA EXCISION REPAIR PROTEIN ERCC-1	240-270								

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FILE NAME	PROTEIN	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 2	AREA 2	AREA 2
PERCA_HUMAN	EXCISION REPAIR PROTEIN ERCC-4	190-209	919-933							
PESTR_HUMAN	ESTROGEN RECEPTOR (ER)	451-488								
PET1_HUMAN	ENDOTHELIN-1 PRECURSOR (ET-1)	133-160								
PET2_HUMAN	ENDOTHELIN-2 PRECURSOR (ET-2)	182-209								
PEV2A_HUMAN	EVI2A PROTEIN PRECURSOR	29-56								
PEZR1_HUMAN	EZRIN (P81) (CYTOVILLIN) (VILLIN-2)	118-146	351-392	403-429	512-539					
PFA5_HUMAN	COAGULATION FACTOR V PRECURSOR	2103-2137								
PFA8_HUMAN	COAGULATION FACTOR VIII PRECURSOR (PROCOAGULANT COMPONENT)	871-908	1007-1034	1194-1230						
PFA9_HUMAN	COAGULATION FACTOR IX PRECURSOR (EC 3.4.21.22) (CHRISTMAS FACTOR)	231-268								
PFABI_HUMAN	FATTY ACID-BINDING PROTEIN, INTESTINAL	98-125								
PFASA_HUMAN	APOPTOSIS-MEDIATING SURFACE ANTIGEN FAS PRECURSOR (APO-1 ANTIGEN)	23-50	249-301	306-333						
PFCE2_HUMAN	LOW AFFINITY IMMUNOGLOBULIN EPSILON FC RECEPTOR (LYMPHOCYTE IGE	81-115								
PFCEA_HUMAN	HIGH AFFINITY IMMUNOGLOBULIN EPSILON RECEPTOR ALPHA-SUBUNIT (FCERI)	146-174								
PFGR2_HUMAN	FIBROBLAST GROWTH FACTOR RECEPTOR 2 PRECURSOR (EC 2.7.1.112)	310-337								
PFIBA_HUMAN	FIBRINOGEN ALPHA CHAIN PRECURSOR	131-165	427-457							
PFIBB_HUMAN	FIBRINOGEN BETA CHAIN PRECURSOR	149-186								
PFIBG_HUMAN	FIBRINOGEN GAMMA-A CHAIN PRECURSOR	59-93	125-160							
PFIBH_HUMAN	FIBRINOGEN GAMMA-B CHAIN (FIBRINOGEN GAMMA')	59-93	125-160							
PFIBC_HUMAN	FIBRONECTIN PRECURSOR	2168-2199								
PFLI_HUMAN	FLI-1 ONCOGENE (ERGB TRANSCRIPTION FACTOR)	172-209								
PFMO3_HUMAN	DIMETHYLANILINE MONOOXYGENASE (N-OXIDE FORMING) 3 (EC 1.14.13.8)	184-218	236-283	301-328						
PFOS_HUMAN	FBJ-C-FOS PROTO-ONCOGENE PROTEIN	162-193								
PFRA1_HUMAN	FOS-RELATED ANTIGEN 1.	133-168								
PFRA2_HUMAN	FOS-RELATED ANTIGEN 2.	149-180								
PFRIH_HUMAN	FERRITIN HEAVY CHAIN.	2-34								
PFRIL_HUMAN	FERRITIN LIGHT CHAIN.	2-33								
PFSHR_HUMAN	FOLLICLE STIMULATING HORMONE RECEPTOR PRECURSOR (FSH-R)	304-395								
PFUCO_HUMAN	TISSUE ALPHA-L-FUCOSIDASE PRECURSOR (EC 3.2.1.51) (ALPHA-L-FUCOSIDASE	308-335								
PFUMH_HUMAN	FUMARATE HYDRATASE, MITOCHONDRIAL (EC 4.2.1.2) (FUMARASE)	424-451								
PG05I_HUMAN	PUTATIVE LYMPHOCYTE G0/G1 SWITCH PROTEIN	36-83								
PGIP_HUMAN	PROTEIN KINASE C SUBSTRATE, 80 KD PROTEIN, HEAVY CHAIN (PKCSH)	146-173								
PGPI_HUMAN	GLUCOSE-6-PHOSPHATE ISOMERASE (GPI) (EC 5.3.1.9) (PHOSPHOGLUCOSE	16-50								
PGT12_HUMAN	MAJOR GASTRONINTESTINAL TUMOR-ASSOCIATED PROTEIN GA733-2 PRECURSOR	181-215								
PGAL1_HUMAN	GALACTOKINASE 1 (EC 2.7.1.6).	254-281								
PGAA1_HUMAN	GAMMA-AMINOBUTYRIC-ACID RECEPTOR ALPHA-1 SUBUNIT PRECURSOR (GABA(A)	210-237								
PGAA3_HUMAN	GAMMA-AMINOBUTYRIC-ACID RECEPTOR ALPHA-3 SUBUNIT PRECURSOR (GABA(A)	211-255								
PGASR_HUMAN	GASTRIN/CHOLECYSTOKININ TYPE B RECEPTOR (CCK-B RECEPTOR).	75-105								
PGB01_HUMAN	GUANINE NUCLEOTIDE-BINDING PROTEIN G(O), ALPHA SUBUNIT 1	22-49								
PGB02_HUMAN	GUANINE NUCLEOTIDE-BINDING PROTEIN G(O), ALPHA SUBUNIT 2.	22-49								
PGBAK_HUMAN	GUANINE NUCLEOTIDE-BINDING PROTEIN G(K), ALPHA SUBUNIT (G(T) ALPHA-3)	22-49								
PGBA5_HUMAN	GUANINE NUCLEOTIDE-BINDING PROTEIN G(S), ALPHA SUBUNIT (ADENYLATE	7-34								
PGBAY_HUMAN	GUANINE NUCLEOTIDE-BINDING PROTEIN G(Y), ALPHA SUBUNIT (ALPHA-11)	95-122								
PGBB3_HUMAN	GUANINE NUCLEOTIDE-BINDING PROTEIN G(I)/G(S)/G(T) BETA SUBUNIT 3	61-92								
PGBLP_HUMAN	GUANINE NUCLEOTIDE-BINDING PROTEIN BETA SUBUNIT-LIKE PROTEIN 12.3.	110-137	235-282	289-316						
PGBP2_HUMAN	INTERFERON-INDUCED GUANYLATE-BINDING PROTEIN 2 (GUANINE NUCLEOTIDE-	434-488								
PGBT2_HUMAN	GUANINE NUCLEOTIDE-BINDING PROTEIN G(T), ALPHA-2 SUBUNIT (TRANSDUCIN	22-49								
PGCF_HUMAN	GC-RICH SEQUENCE DNA-BINDING FACTOR (GCF) (TRANSCRIPTION FACTOR 9)	200-227	293-320	367-394	396-423	447-474				
PGCH1_HUMAN	GTP CYCLOHYDROLASE I (EC 3.5.4.16)	165-192								
PGCRA_HUMAN	GLUCOCORTICOID RECEPTOR, ALPHA (GR)	163-194								
PGCRB_HUMAN	GLUCOCORTICOID RECEPTOR, BETA (GR)	167-194								
PGDH_HUMAN	GLYCINE DEHYDROGENASE (DECARBOXYLATING) PRECURSOR (EC 1.4.4.2)	460-487								
PGDN_HUMAN	GLIA DERIVED NEXIN (GDN) (PROTEASE NEXIN I).	83-110								
PGELS_HUMAN	GELSOLIN PRECURSOR, PLASMA (ACTIN-DEPOLYMERIZING FACTOR) (ADF)	701-728								
PGFAP_HUMAN	GLIAL FIBRILLARY ACIDIC PROTEIN, ASTROCYTE	188-215	348-375	384-411						
PGLAS_HUMAN	N-ACETYLGLUCOSAMINE-6-SULFATASE PRECURSOR (EC 3.1.6.14) (G6S)	176-221								
PGLPK_HUMAN	GLYCEROL KINASE (EC 2.7.1.30) (ATP:GLYCEROL 3-PHOSPHOTRANSFERASE)	78-112	231-278							
PGLY1_HUMAN	SERINE HYDROXYMETHYLTRANSFERASE, CYTOSOLIC (EC 2.1.2.1) (SERINE	32-59	344-371							

PCGENE	107x178x4 Motif Search on All Human Protein Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILE NAME	PROTEIN	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
POLY3_HUMAN	SERINE HYDROXYMETHYLTRANSFERASE, MITOCHONDRIAL (EC 2.1.2.1) (SERINE	417-444								
PGR76_HUMAN	76 KD GLUCOSE REGULATED PROTEIN PRECURSOR (GRP 76) (IMMUNOGLOBULIN	564-591	598-625							
PGR76_HUMAN	76 KD GLUCOSE REGULATED PROTEIN PRECURSOR (GRP 76) (IMMUNOGLOBULIN	142-169	341-368							
PGRA2_HUMAN	GLYCINE RECEPTOR ALPHA-2 CHAIN PRECURSOR.	9-43	61-88							
PGRA2_HUMAN	GLYCINE RECEPTOR ALPHA-2 CHAIN PRECURSOR.	9-43	61-88							
PGRA_HUMAN	GRAVIN (FRAGMENT).									
PGRA_HUMAN	GROWTH HORMONE-RELEASING HORMONE RECEPTOR PRECURSOR (GHRH RECEPT	128-155								
PGTB5_HUMAN	GLUTATHIONE S-TRANSFERASE HA SUBUNIT 2 (EC 2.5.1.18) (GTH2) (CLASS-	64-91								
PGTPA_HUMAN	GTPASE-ACTIVATING PROTEIN (GAP) (RAS P21 PROTEIN ACTIVATOR).	474-501	1012-1047							
PGTR1_HUMAN	GLUCOSE TRANSPORTER TYPE 1, ERYTHROCYTE/BRAIN.	274-301								
PGTR3_HUMAN	GLUCOSE TRANSPORTER TYPE 3, BRAIN.	272-299								
PGTR4_HUMAN	GLUCOSE TRANSPORTER TYPE 4, INSULIN-RESPONSIVE.	290-317								
PH10_HUMAN	HISTONE H1°.	44-89								
PH1A_HUMAN	HISTONE H1A (H1.1).	73-104								
PH1B_HUMAN	HISTONE H1B (H1.5)	70-101								
PH1C_HUMAN	HISTONE H1C (H1.2)	71-102								
PH1D_HUMAN	HISTONE H1D (H1.3)	70-101								
PH1T_HUMAN	HISTONE H1T.	74-105								
PH2B1_HUMAN	HISTONE H2B 1.	20-47								
PH2B2_HUMAN	HISTONE H2B 2.	20-47								
PH2B_HUMAN	HISTONE H2B (H2B.1 A).	20-47								
PHA2_HUMAN	HLA CLASS II HISTOCOMPATIBILITY ANTIGEN, DQ(5) ALPHA CHAIN PRECURSOR.	142-169								
PHB3E_HUMAN	HLA CLASS II HISTOCOMPATIBILITY ANTIGEN, DR-W53 BETA CHAIN PRECURSOR.	56-83								
PHB1P_HUMAN	HLA CLASS II HISTOCOMPATIBILITY ANTIGEN, DP(W4) BETA CHAIN PRECURSOR.	30-77								
PHB2Q_HUMAN	HLA CLASS II HISTOCOMPATIBILITY ANTIGEN, DP(W2) BETA CHAIN PRECURSOR.	30-77								
PHB3S_HUMAN	HLA CLASS II HISTOCOMPATIBILITY ANTIGEN, 53 BETA CHAIN (FRAGMENT)	16-43								
PHBG1_HUMAN	HEPARIN-BINDING GROWTH FACTOR PRECURSOR 1 (HBGF-1) (ACIDIC FIBROBLAST	102-129								
PHBG5_HUMAN	INT-2 PROTO-ONCOGENE PROTEIN PRECURSOR (HBGF-5).	61-91								
PHBG6_HUMAN	FIBROBLAST GROWTH FACTOR-6 PRECURSOR (FGF-6) (HBGF-6) (HST-2)	41-75	159-186							
PHBI_HUMAN	P59 PROTEIN (HSP BINDING IMMUNOPHILIN) (MBP) (POSSIBLE PEPTIDYL-PROLYL	264-312								
PHBM4_HUMAN	UROPORPHYRINOGEN-III SYNTHASE (EC 4.2.1.75) (UROPORPHYRINOGEN-III	14-118								
PHBP1_HUMAN	HEPARIN COFACTOR II PRECURSOR (HC-II) (PROTEASE INHIBITOR LEUSERPIN 2)	169-196								
PHBP5_HUMAN	SERINE PROTEASE HEPSIN (EC 3.4.21.-).	22-49								
PHEXA_HUMAN	BETA-HEXOSAMINIDASE ALPHA CHAIN PRECURSOR (EC 3.2.1.52) (N-ACETYL-	336-383								
PHEXB_HUMAN	BETA-HEXOSAMINIDASE BETA CHAIN PRECURSOR (EC 3.2.1.52) (N-ACETYL-BETA-	388-415								
PHOX1_HUMAN	HOMEOBOX PROTEIN MSX-1 (HOX-7).	178-212								
PHPA_HUMAN	HEPATOCYTE NUCLEAR FACTOR 1-ALPHA (HNF-1A) (LIVER SPECIFIC	2-29								
PHO1_HUMAN	HEME OXYGENASE 1 (EC 1.14.99.3) (HO-1).	197-224								
PHPPD_HUMAN	4-HYDROXYPHENYLPYRUVATE DIOXYGENASE (EC 1.13.11.27) (4HPPD)	306-333								
PHRX_HUMAN	ZINC FINGER PROTEIN HRX.	521-548	914-974	1637-1666	2215-2286	2289-2316	3117-3344	3448-3475		
PHSI_HUMAN	HEMATOPOIETIC LINEAGE CELL SPECIFIC PROTEIN.	43-70								
PHS9A_HUMAN	HEAT SHOCK PROTEIN HSP 90-ALPHA (HSP 86).	443-470	640-674							
PHSEB_HUMAN	HEAT-STABLE ENTEROTOXIN RECEPTOR PRECURSOR (GC-C) (INTESTINAL	511-545								
PHSF1_HUMAN	HEAT SHOCK FACTOR PROTEIN 1 (HSF 1) (HEAT SHOCK TRANSCRIPTION FACTOR	113-140	168-209							
PHSF2_HUMAN	HEAT SHOCK FACTOR PROTEIN 2 (HSF 2) (HEAT SHOCK TRANSCRIPTION FACTOR	117-198								
PHY2I_HUMAN	IG HEAVY CHAIN PRECURSOR V-III REGION (GAL).	67-104								
PHY3T_HUMAN	IG HEAVY CHAIN V-III REGION (TOL.) PROTO-ONCOGENE)	47-74								
PHX11_HUMAN	HOMEOBOX PROTEIN HOX-11 (TCL-3) PROTO-ONCOGENE)	262-289								
PHX07_HUMAN	HOMEOBOX PROTEIN HOX-B7 (HOX-2C) (RHO.C1)	135-162								
PIAPP_HUMAN	ISLET AMYLOID POLYPEPTIDE	53-80								
PIBP3_HUMAN	INSULIN-LIKE GROWTH FACTOR BINDING PROTEIN 3 PRECURSOR (IGFBP-3)	183-210								
PIC1_HUMAN	PLASMA PROTEASE C1 INHIBITOR PRECURSOR (C1 INH).	251-278								
PICA5_HUMAN	INTERCELLULAR ADHESION MOLECULE-3 PRECURSOR (ICAM-3).	37-64								
PIDE_HUMAN	INSULIN-DEGRADING ENZYME (EC 3.4.99.45) (INSULINASE) (INSULIN	474-504	907-941							
PIF41_HUMAN	EUKARYOTIC INITIATION FACTOR 4A-I (EIF-4A-I)	232-259	322-349							
PIF4B_HUMAN	INTRINSIC FACTOR PRECURSOR (IF) (GASTRIC INTRINSIC FACTOR).	149-176	406-433							
PIF_HUMAN	INHIBIN BETA A CHAIN PRECURSOR (ACTIVIN BETA-A CHAIN) (ERYTHROID	108-349								
PIL1A_HUMAN	INTERLEUKIN-1 ALPHA PRECURSOR (IL-1 ALPHA) (HEMATOPOIETIN-1)	80-107	183-210							
PIL1A_HUMAN	INTERLEUKIN-1 RECEPTOR, TYPE I PRECURSOR (IL-1R) (P80)	76-110	172-199							

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FILENAME	PROTEIN	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1
PIL1R_HUMAN	INTERLEUKIN-1 RECEPTOR, TYPE I PRECURSOR (IL-1R1) (P80).	437-467									
PIL1S_HUMAN	INTERLEUKIN-1 RECEPTOR, TYPE II PRECURSOR (IL-1R2).	159-186									
PIL3_HUMAN	INTERLEUKIN-3 RECEPTOR ALPHA CHAIN PRECURSOR (IL-3R-ALPHA).	87-114									
PIL4_HUMAN	INTERLEUKIN-4 PRECURSOR (IL-4) (B-CELL STIMULATORY FACTOR 2) (BSF-2)	112-139									
PINA1_HUMAN	INTERFERON ALPHA-1 PRECURSOR.	94-121									
PINAR_HUMAN	INTERFERON-ALPHA RECEPTOR PRECURSOR (IFN-ALPHA-REC).	90-117	164-191	200-227	508-535						
PINB_HUMAN	INTERFERON BETA PRECURSOR (FIBROBLAST).	88-129									
PINI_HUMAN	INTERFERON-INDUCED 17 KD PROTEIN (CONTAINS: INTERFERON-INDUCED 15 KD	83-121									
PIN6_HUMAN	INTERFERON-INDUCED 56 KD PROTEIN (IFI-56K).	51-78	216-243	393-420							
PINSR_HUMAN	INSULIN RECEPTOR PRECURSOR (EC 2.7.1.112) (IR).	592-619									
PINVO_HUMAN	INVOLUCRIN.	119-146	229-273	358-385	386-450						
PIPIK_HUMAN	1D-MYO-INOSITOL-TRISPHOSPHATE 3-KINASE A (EC 2.7.1.127) (INOSITOL	121-163									
PIPLP_HUMAN	PLASMA SERINE PROTEASE (PROTEIN C) INHIBITOR PRECURSOR (PCI)	90-117	206-233								
PIRBP_HUMAN	INTERPHOTORECEPTOR RETINOID-BINDING PROTEIN PRECURSOR (IRBP)	670-697									
PIRF1_HUMAN	INTERFERON REGULATORY FACTOR 2 (IRF-2).	137-193									
PITP_HUMAN	77 KD INOSITOL-1,4,5-TRISPHOSPHATE 5-PHOSPHATASE PRECURSOR	233-262									
PITA2_HUMAN	PLATELET MEMBRANE GLYCOPROTEIN IA PRECURSOR (GPIA) (COLLAGEN RECEPTO	579-606	900-927								
PITA5_HUMAN	FIBRONECTIN RECEPTOR, ALPHA SUBUNIT PRECURSOR (INTEGRIN ALPHA-5)	398-384	657-685	765-792							
PITA6_HUMAN	INTEGRIN ALPHA-6 PRECURSOR (VLA-6) (INTEGRIN ALPHA-E) (CD49F).	884-911	944-974								
PITAL_HUMAN	LEUKOCYTE ADHESION GLYCOPROTEIN LFA-1 ALPHA CHAIN PRECURSOR (LEUKOC	256-283	310-341	795-822							
PITAM_HUMAN	CELL SURFACE GLYCOPROTEIN MAC-1 ALPHA SUBUNIT PRECURSOR (CR-3 ALPHA	1046-1078									
PITAV_HUMAN	VITRONECTIN RECEPTOR ALPHA SUBUNIT PRECURSOR (INTEGRIN ALPHA-V)	230-264									
PITB1_HUMAN	FIBRONECTIN RECEPTOR, BETA SUBUNIT PRECURSOR (INTEGRIN BETA-1) (CD29)	218-245	334-399								
PITB2_HUMAN	CELL SURFACE ADHESION GLYCOPROTEINS LFA-1, CR3 AND P150,95, BETA-	339-366	705-732								
PITB3_HUMAN	PLATELET MEMBRANE GLYCOPROTEIN IIIA PRECURSOR (GPIIIA) (INTEGRIN BETA-	324-351									
PITB4_HUMAN	INTEGRIN BETA-4 SUBUNIT PRECURSOR (GP150).	342-369									
PITB5_HUMAN	INTEGRIN BETA-5 SUBUNIT PRECURSOR.	724-751									
PITB6_HUMAN	INTEGRIN BETA-6 SUBUNIT PRECURSOR.	311-338	332-393								
PITB7_HUMAN	INTEGRIN BETA-8 SUBUNIT PRECURSOR.	362-399	696-737								
PITI2_HUMAN	INTER-ALPHA-TRYPSIN INHIBITOR COMPLEX COMPONENT II PRECURSOR.	124-161	423-452	772-818							
PK1C0_HUMAN	KERATIN, TYPE I CYTOSKELETAL 10 (CYTOKERATIN 10) (K10).	134-187	196-227	337-399	428-462						
PK1CM_HUMAN	KERATIN, TYPE I CYTOSKELETAL 13 (CYTOKERATIN 13) (K13).	112-142									
PK1CN_HUMAN	KERATIN, TYPE I CYTOSKELETAL 14 (CYTOKERATIN 14) (K14).	122-152	206-233	393-424							
PK1CO_HUMAN	KERATIN, TYPE I CYTOSKELETAL 15 (CYTOKERATIN 15) (K15).	113-143									
PK1CP_HUMAN	KERATIN, TYPE I CYTOSKELETAL 16 (CYTOKERATIN 16) (K16).	308-339									
PK1CQ_HUMAN	KERATIN, TYPE I CYTOSKELETAL 17 (CYTOKERATIN 17) (K17).	122-152	302-346	393-431							
PK1CR_HUMAN	KERATIN, TYPE I CYTOSKELETAL 18 (CYTOKERATIN 18) (K18).	83-114	251-298	333-385							
PK1CS_HUMAN	KERATIN, TYPE I CYTOSKELETAL 19 (CYTOKERATIN 19) (K19).	88-118	317-363	370-397							
PK1CI_HUMAN	KERATIN, TYPE I CYTOSKELETAL 1 (CYTOKERATIN 1) (K1) (CYTOSKELETAL 67	196-226	346-384	390-447							
PK2C1_HUMAN	KERATIN, TYPE II CYTOSKELETAL 65 KD.	215-248	364-405	461-488							
PK2C4_HUMAN	KERATIN, TYPE II CYTOSKELETAL 4 (CYTOKERATIN 4) (K4) (FRAGMENT)	42-73	126-153	189-248							
PK2C5_HUMAN	KERATIN, TYPE II CYTOSKELETAL 5 (CYTOKERATIN 5) (K5) (58 KD	185-246	332-373								
PK2C6_HUMAN	KERATIN, TYPE II CYTOSKELETAL 6 (CYTOKERATIN 6) (K6B KERATIN)	178-239	325-366	422-449							
PK2C8_HUMAN	KERATIN, TYPE II CYTOSKELETAL 8 (CYTOKERATIN 8) (K8).	140-167									
PK2CA_HUMAN	KERATIN, TYPE II CYTOSKELETAL 56 KD (K6A KERATIN) (FRAGMENT).	7-34	126-161	217-244							
PK6PF_HUMAN	6-PHOSPHOFRUCTOKINASE, MUSCLE TYPE (EC 2.7.1.11) (PHOSPHOFRUCTOKINASE	140-167									
PK6PL_HUMAN	6-PHOSPHOFRUCTOKINASE, LIVER TYPE (EC 2.7.1.11) (PHOSPHOFRUCTOKINASE	69-80	126-159								
PKABL_HUMAN	PROTO-ONCOGENE TYROSINE-PROTEIN KINASE ABL (EC 2.7.1.112) (P150)	499-533									
PKAC_HUMAN	IG KAPPA CHAIN C REGION.	37-85									
PKALX_HUMAN	KALLMANN SYNDROME PROTEIN PRECURSOR (ADHESION MOLECULE-LIKE X-LINK	380-414									
PKAP0_HUMAN	CAMP-DEPENDENT PROTEIN KINASE TYPE I-ALPHA REGULATORY CHAIN	178-206									
PKAP1_HUMAN	CAMP-DEPENDENT PROTEIN KINASE TYPE I-BETA REGULATORY CHAIN	177-204									
PKAP2_HUMAN	CAMP-DEPENDENT PROTEIN KINASE TYPE II-ALPHA REGULATORY CHAIN	175-202	290-317								
PKAR1_HUMAN	NUCLEAR FACTOR KAPPA-B SUBUNIT-1 (NF-KAPPA-B P105 SUBUNIT)	528-570									
PKCG0_HUMAN	CREATINE KINASE, B CHAIN (EC 2.7.3.2).	301-328									
PKECK_HUMAN	TYROSINE PROTEIN-KINASE ECK PRECURSOR (EC 2.7.1.112) (EPITHELIAL CELL	466-493									
PKFER_HUMAN	PROTO-ONCOGENE TYROSINE-PROTEIN KINASE FER (EC 2.7.1.112) (P94-FER)	219-246	564-591								

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FILENAME	PROTEIN									
PKFES_HUMAN	PROTO-ONCOGENE TYROSINE-PROTEIN KINASE FES/FPS (EC 2.7.1.112) (C-FES)	101-145	295-322							
PKFLT_HUMAN	RECEPTOR-RELATED TYROSINE KINASE FLT PRECURSOR (EC 2.7.1.112).	268-293	318-343							
PKFMS_HUMAN	MACROPHAGE COLONY STIMULATING FACTOR 1 RECEPTOR PRECURSOR (CSF-1-R)	291-320								
PKFYN_HUMAN	PROTO-ONCOGENE TYROSINE-PROTEIN KINASE FYN (EC 2.7.1.112) (P59-FYN)	199-233								
PKGB1_HUMAN	CGMP-DEPENDENT PROTEIN KINASE, BETA ISOZYME (CGK) (EC 2.7.1.37)	17-54								
PKHEK_HUMAN	TYROSINE KINASE HEK RECEPTOR PRECURSOR (EC 2.7.1.112).	644-675								
PKINH_HUMAN	KINESIN HEAVY CHAIN.	125-155	425-453	471-542	633-680	689-716	872-899			
PKIT_HUMAN	KIT PROTO-ONCOGENE TYROSINE KINASE PRECURSOR (EC 2.7.1.112).	235-263								
PKMET_HUMAN	HEPATOCYTE GROWTH FACTOR RECEPTOR PRECURSOR (MET PROTO-ONCOGENE	898-925								
PKNH_HUMAN	KINNOGEN, HMW PRECURSOR (ALPHA-2-THIOL PROTEINASE INHIBITOR)	505-532								
PKPSI_HUMAN	GALACTOSYLTRANSFERASE ASSOCIATED PROTEIN KINASE P35/P70 (EC 2.7.1.-).	81-108								
PKPR4_HUMAN	INTERFERON-INDUCED, DOUBLE-STRANDED RNA-ACTIVATED PROTEIN KINASE	149-179	191-225	285-312						
PKPX_HUMAN	PUTATIVE SERINE/THREONINE-PROTEIN KINASE PX1 (EC 2.7.1.-)	583-609								
PKPCL_HUMAN	PROTEIN KINASE C, ETA TYPE (EC 2.7.1.-) (NPKC-ETA) (PKC-L).	318-345								
PKPT1_HUMAN	SERINE/THREONINE-PROTEIN KINASE PCTAIRE-1 (EC 2.7.1.-)	149-176	209-253							
PKPY1_HUMAN	PYRUVATE KINASE, M1 (MUSCLE) ISOZYME (EC 2.7.1.40) (CYTOSOLIC THYROID	243-289								
PKPY2_HUMAN	PYRUVATE KINASE, M2 ISOZYME (EC 2.7.1.40).	243-289								
PKPYR_HUMAN	PYRUVATE KINASE, ISOZYME R (EC 2.7.1.40)	2-29								
PKRET_HUMAN	PROTO-ONCOGENE TYROSINE-PROTEIN KINASE RET (EC 2.7.1.112).	181-217								
PKROS_HUMAN	ROS PROTO-ONCOGENE TYROSINE KINASE (EC 2.7.1.112) (FRAGMENT)	157-203								
PKSRC_HUMAN	PROTO-ONCOGENE TYROSINE-PROTEIN KINASE SRC (EC 2.7.1.112) (P60-SRC)	143-170								
PKU7_HUMAN	LUPUS KU AUTOANTIGEN PROTEIN P70 (70 KD SUBUNIT OF KU ANTIGEN).	235-279								
PKU8_HUMAN	LUPUS KU AUTOANTIGEN PROTEIN P86 (86 KD SUBUNIT OF KU ANTIGEN).	238-293								
PKYES_HUMAN	PROTO-ONCOGENE TYROSINE-PROTEIN KINASE YES (EC 2.7.1.112) (P61-YES)	209-243								
PLAA1_HUMAN	LAMIN B1.	32-66	117-144	153-193	214-241	197-424	480-507	510-539		
PLAMA_HUMAN	LAMIN A (70 KD LAMIN)	32-88	114-165	292-343						
PLAMC_HUMAN	LAMIN C.	32-88	114-165	292-343						
PLAR_HUMAN	LAR PROTEIN PRECURSOR (LEUKOCYTE ANTIGEN RELATED) (EC 3.1.3.48).	933-969								
PLA_HUMAN	LUPUS LA PROTEIN (SJOGREN SYNDROME TYPE B ANTIGEN) (SS-B).	191-222	295-342							
PLCAT_HUMAN	PHOSPHATIDYLCHOLINE-STEROL ACYLTRANSFERASE PRECURSOR (EC 2.3.1.43)	131-158								
PLDHA_HUMAN	L-LACTATE DEHYDROGENASE A CHAIN (EC 1.1.1.27) (LDH-A)	81-108	202-229							
PLDHB_HUMAN	L-LACTATE DEHYDROGENASE B CHAIN (EC 1.1.1.27) (LDH-B).	225-252								
PLDLR_HUMAN	LOW-DENSITY LIPOPROTEIN RECEPTOR PRECURSOR.	483-510								
PLEC1_HUMAN	ASIALOGLYCOPROTEIN RECEPTOR 1 (HEPATIC LECTIN H1) (ASGPR).	62-96								
PLEC2_HUMAN	P-SELECTIN PRECURSOR (GRANULE MEMBRANE PROTEIN 140) (GMP-140) (PADGEM)	32-59	87-116							
PLGL_HUMAN	LACTOYLGLUTATHIONE LYASE (EC 4.4.1.5) (METHYLGLYOXALASE)	83-117								
PLIF_HUMAN	LEUKEMIA INHIBITORY FACTOR PRECURSOR (LIF) (DIFFERENTIATION-	95-122								
PLIN1_HUMAN	LINE-1 REVERSE TRANSCRIPTASE HOMOLOG.	152-179	232-263	298-358	671-698	874-901	1036-1066			
PLIPC_HUMAN	TRIACYLGLYCEROL LIPASE PRECURSOR (EC 3.1.1.3) (LIPASE, GASTRIC).	158-185								
PLIPS_HUMAN	HORMONE SENSITIVE LIPASE (EC 3.1.1.-) (HSL).	305-332								
PLTA4_HUMAN	LEUKOTRIENE A-4 HYDROLASE (EC 3.3.2.6) (LTA-4 HYDROLASE) (LEUKOTRIENE	42-83	290-324							
PLMA_HUMAN	LAMININ A CHAIN PRECURSOR.	1318-1345	1741-1771	1785-1813	1824-1851	1884-1931	1965-1999	2026-2059	2091-2118	
PLMB1_HUMAN	LAMININ B1 CHAIN PRECURSOR.	1267-1314	1364-1394	1397-1431	1451-1714	1722-1781				
PLMB2_HUMAN	LAMININ B2 CHAIN PRECURSOR.	1105-1135	1313-1347							
PLMP2_HUMAN	LYSOSOME-ASSOCIATED MEMBRANE GLYCOPROTEIN 2 PRECURSOR (LAMP-2)	135-182								
PLOX5_HUMAN	ARACHIDONATE 12-LIPOXYGENASE (EC 1.13.11.31) (12-LOX).	341-368								
PLOX5_HUMAN	ARACHIDONATE 5-LIPOXYGENASE (EC 1.13.11.34) (5-LIPOXYGENASE) (5-LO).	50-87								
PLPH_HUMAN	LACTASE-PHLORIZIN HYDROLASE PRECURSOR (EC 3.2.1.108) (EC 3.2.1.62)	776-803								
PLPTB_HUMAN	PROTEIN-TYROSINE PHOSPHATASE BETA PRECURSOR (EC 3.1.3.48) (PTP-BETA)	140-167	589-617							
PLPTG_HUMAN	PROTEIN-TYROSINE PHOSPHATASE GAMMA PRECURSOR (EC 3.1.3.48).	1081-1108								
PLPTZ_HUMAN	PROTEIN-TYROSINE PHOSPHATASE ZETA PRECURSOR (EC 3.1.3.48) (PTP-ZETA).	553-587	1024-1051	1973-2000						
PLSHR_HUMAN	LUTROPIN-CHORIOGONADOTROPIC HORMONE RECEPTOR PRECURSOR (LH/CG-R)	66-114	448-480							
PLY2B_HUMAN	IG LAMBDA CHAIN V-II REGION (MEI)	61-88								
PLYAO_HUMAN	LYSOSOMAL ALPHA-GLUCOSIDASE PRECURSOR (EC 3.2.1.20) (ACID MALTASE)	885-912								
PMOM_HUMAN	MITOCHONDRIAL 2-OXOGLUTARATE/MALATE CARRIER PROTEIN (OGCP)	50-77								
PMAC1_HUMAN	GALACTOSE-SPECIFIC LECTIN (MAC-1 ANTIGEN) (IKE BINDING PROTEIN) (35 KD	2119-2146								
PMAN9_HUMAN	MANNOSIDASE (EC 3.2.1.-)	414-441								

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FILENAME	PROTEIN	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PMANA_HUMA	MANNOSE-6-PHOSPHATE ISOMERASE (EC 5.3.1.8) (PHOSPHOMANNOSE ISOMERASE)	60-87								
PMANR_HUMA	MACROPHAGE MANNOSE RECEPTOR PRECURSOR.	248-284	1147-1182							
PMAP2_HUMAN	MICROTUBULE-ASSOCIATED PROTEIN 2 (FRAGMENT).	434-478								
PMAP4_HUMAN	MICROTUBULE-ASSOCIATED PROTEIN 4.	408-449								
PMAX_HUMAN	MAX PROTEIN.	117-144								
PMDM2_HUMA	MDM2 PROTEIN (P53-ASSOCIATED PROTEIN).	235-288								
PMDR1_HUMAN	MULTIDRUG RESISTANCE PROTEIN 1 (P-GLYCOPROTEIN 1).	561-595								
PMERL_HUMAN	MERLIN (SCHWANNOMIN).	377-407	532-566							
PMERO_HUMAN	MEROSIN HEAVY CHAIN (LAMININ CHAIN A2) (FRAGMENT).	71-105	139-173	431-458	791-818					
PMGMT_HUMA	METHYLATED-DNA--PROTEIN-CYSTEINE METHYLTRANSFERASE (EC 2.1.1.63) (6-O-	91-118								
PMKLP_HUMAN	MITOTIC KINESIN-LIKE PROTEIN-1.	207-234	519-546	510-537	549-608					
PMLCH_HUMAN	MELANIN-CONCENTRATING HORMONE PRECURSOR.	8-35								
PMLK1_HUMAN	MIXED LINEAGE KINASE 1 (EC 2.7.1.-) (FRAGMENT).	130-157	321-348							
PMMSA_HUMA	METHYLMALONATE-SEMIALDEHYDE DEHYDROGENASE	393-420								
PMOES_HUMAN	MOESIN (MEMBRANE-ORGANIZING EXTENSION SPIKE PROTEIN).	119-146	351-403							
PMPCP_HUMAN	MITOCHONDRIAL PHOSPHATE CARRIER PROTEIN PRECURSOR.	286-313								
PMPI3_HUMAN	M-PHASE INDUCER PHOSPHATASE 3 (EC 3.1.3.48).	72-99								
PMPKK_HUMAN	DUAL SPECIFICITY MITOGEN-ACTIVATED PROTEIN KINASE KINASE (EC 2.7.1.-)	19-50								
PMPRI_HUMAN	CATION-INDEPENDENT MANNOSE-6-PHOSPHATE RECEPTOR PRECURSOR (CI MAN-6-	1569-1596	2437-2478							
PMRP_HUMAN	MULTIDRUG RESISTANCE-ASSOCIATED PROTEIN.	396-423	507-548							
PMSHR_HUMAN	MELANOCYTE STIMULATING HORMONE RECEPTOR (MSH-R) (MELANOTROPIN	38-65								
PMSRE_HUMAN	MACROPHAGE SCAVENGER RECEPTOR TYPES I AND II (MACROPHAGE ACETYLATED	173-204	230-260							
PMTDM_HUMA	DNA (CYTOSINE-5)-METHYLTRANSFERASE (EC 2.1.1.37) (DNA	387-414	601-628							
PMTF1_HUMAN	MITOCHONDRIAL TRANSCRIPTION FACTOR 1 PRECURSOR (MTTF1).	181-212								
PMUTA_HUMAN	METHYLMALONYL-COA MUTASE PRECURSOR (EC 5.4.99.2) (MCM).	468-519								
PMX1_HUMAN	INTERFERON-REGULATED RESISTANCE GTP-BINDING PROTEIN MXA (INTERFERON-	108-150								
PMX2_HUMAN	INTERFERON-REGULATED RESISTANCE GTP-BINDING PROTEIN MX2 (P78-RELATED	451-489	670-697							
PMYBA_HUMA	MYB-RELATED PROTEIN A (FRAGMENT).	619-646								
PMYBB_HUMAN	MYB-RELATED PROTEIN B.	87-117								
PMYCN_HUMA	N-MYC PROTO-ONCOGENE PROTEIN.	263-300	413-461							
PMYC_HUMAN	MYC PROTO-ONCOGENE PROTEIN.	393-422								
PMYF4_HUMAN	MYOGENIC FACTOR MYF-4 (MYOGENIN).	119-146								
PMYF5_HUMAN	MYOGENIC FACTOR MYF-5.	121-148								
PMYP2_HUMAN	MYELIN P2 PROTEIN.	70-110								
PMYPR_HUMAN	MYELIN PROTEOLIPID PROTEIN (PLP) (LIPOPHILIN) (CONTAINS: MYELIN	43-70								
PMYSA_HUMAN	MYOSIN HEAVY CHAIN, CARDIAC MUSCLE ALPHA ISOFORM (FRAGMENT).	38-75	84-111	137-178	236-324	398-435	440-485			
PMYSB_HUMAN	MYOSIN HEAVY CHAIN, CARDIAC MUSCLE BETA ISOFORM.	48-75	951-981	997-1044	1088-1123	1192-1234	1266-1332	1360-1408	1442-1479	1488-1532
		1541-1582	1640-1681	1683-1710	1801-1838					
PMYSE_HUMAN	MYOSIN HEAVY CHAIN, FAST SKELETAL MUSCLE, EMBRYONIC.	46-73	860-903	952-1077	1119-1146	1193-1235	1267-1340	1364-1413	1483-1597	1641-1675
		1707-1734	1827-1858							
PMYSP_HUMAN	MYOSIN HEAVY CHAIN, PERINATAL CARDIAC MUSCLE (FRAGMENT).	50-77	95-125	141-188	215-272	403-483	507-552	586-624	685-736	784-818
		823-909	946-987	1049-1076						
PMYSS_HUMAN	MYOSIN HEAVY CHAIN, SKELETAL MUSCLE (FRAGMENT).	133-160	193-280	304-349	423-460	468-526	581-608	645-681	743-798	808-835
			846-873							
PMYT1_HUMAN	MYELIN TRANSCRIPTION FACTOR 1 (MYT1) (FRAGMENT).	640-678								
PNACA_HUMAN	SODIUM/CALCIUM EXCHANGER PRECURSOR (NA+/CA2+-EXCHANGE PROTEIN).	492-519	594-621	705-735						
PNCA3_HUMAN	NEURAL CELL ADHESION MOLECULE, PHOSPHATIDYLINOSITOL-LINKED ISOFORM	255-282								
PNCF1_HUMAN	NEUTROPHIL CYTOSOL FACTOR 1 (NCF-47K) (47 KD AUTOSOMAL CHRONIC	234-261	310-337							
PNCF2_HUMAN	NEUTROPHIL NADPH OXIDASE FACTOR (P67-PHOX).	5-32								
PNEFA_HUMAN	DNA-BINDING PROTEIN NEFA PRECURSOR.	50-77	82-112	343-395						
PNEP_HUMAN	NEPRILYSIN (EC 3.4.24.11) (NEUTRAL ENDOPEPTIDASE) (NEP)	170-216	644-671							
PNF1_HUMAN	NEUROFIBROMIN (NEUROFIBROMATOSIS-RELATED PROTEIN NF-1) (FRAGMENT).	1145-1172	1388-1422	1639-1666						
PNFH_HUMAN	NEUROFILAMENT TRIPLET H PROTEIN (200 KD NEUROFILAMENT PROTEIN) (NF-H).	91-128	431-490							
PNFL_HUMAN	NEUROFILAMENT TRIPLET L PROTEIN (68 KD NEUROFILAMENT PROTEIN) (NF-L).	92-126	441-468							
PNFM_HUMAN	NEUROFILAMENT TRIPLET M PROTEIN (160 KD NEUROFILAMENT PROTEIN) (NF-M)	101-141	164-194	215-280	315-392	737-764	794-826	872-913		
PNK1R_HUMAN	SUBSTANCE-P RECEPTOR (SPR) (NK-1 RECEPTOR) (NK-1R)	338-365								
PNK4_HUMAN	NATURAL KILLER CELLS PROTEIN 4 PRECURSOR	166-193								

PCCENE	1971170d Motif Search on All Human Protein Sequences	AREA1	AREA1	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
TITLE NAME	PROTEIN	187-214	448-475	559-599	701-742	916-943	1060-1113	...	1	...
PMRCR_HUMAN	NK-TUMOR RECOGNITION PROTEIN (NATURAL-KILLER CELLS CYCLOPHILIN-	28-35								
PNKQA_HUMAN	NKG3-A AND NKG3-B TYPE II INTEGRAL MEMBRANE PROTEINS.	389-416	1116-1146	1292-1319						
PNOS1_HUMAN	NITRIC-OXIDE SYNTHASE, BRAIN (EC 1.14.13.39) (NOS, TYPE I)	389-416								
PNOS3_HUMAN	NITRIC-OXIDE SYNTHASE, ENDOTHELIAL (EC 1.14.13.39) (EC-NOS) (NOS,	131-158								
PNTG1_HUMAN	SODIUM- AND CHLORIDE-DEPENDENT GABA TRANSPORTER 1.	37-64								
PNTR_HUMAN	NEUROTENSIN RECEPTOR (NT-R).	71-98								
PNTT6_HUMAN	SODIUM-DEPENDENT SEROTONIN TRANSPORTER (5HT TRANSPORTER) (5H[T	120-147								
PNTTA_HUMAN	SODIUM- AND CHLORIDE-DEPENDENT TAURINE TRANSPORTER.	202-240								
PNUDM_HUMAN	NADH-UBIQUINONE OXIDOREDUCTASE CHAIN 2 (EC 1.6.5.3).	184-191	372-399							
PNUM4_HUMAN	NADH-UBIQUINONE OXIDOREDUCTASE CHAIN 4 (EC 1.6.5.3).	46-73	360-387							
PNUBN_HUMAN	NUCLEOBINDIN PRECURSOR.	462-508								
PNUCL_HUMAN	NUCLEOLIN (PROTEIN C23).	115-142								
PNYIA_HUMAN	PUTATIVE NEUROPEPTIDE Y RECEPTOR TYPE 3 (NPY3-R) (FB22) (NPYRL)	98-128								
POAT_HUMAN	ORNITHINE AMINOTRANSFERASE PRECURSOR (EC 2.6.1.13) (ORNITHINE--KETO-	139-173								
POC1A_HUMAN	OCTAMER-BINDING TRANSCRIPTION FACTOR 1A (OCT-1A)	337-78								
POC1B_HUMAN	OCTAMER-BINDING TRANSCRIPTION FACTOR 1B (OCT-1B)	704-735								
POCDL_HUMAN	LOWE'S OCULOCEREBRORENAL SYNDROME PROTEIN.	90-117	238-266							
POD1_HUMAN	LIPOAMIDE ACYLTRANSFERASE COMPONENT (E2) PRECURSOR OF BRANCHED-CHA	90-117	238-266							
PODP1_HUMAN	DIHYDROLIPOAMIDE ACETYLTRANSFERASE COMPONENT (E2) OF PYRUVATE	100-127	373-402							
POMGP_HUMAN	OLIGODENDROCYTE-MYELIN GLYCOPROTEIN PRECURSOR (OMG)	72-99								
POP1B_HUMAN	BLUE-SENSITIVE OPSIN (BLUE CONE PHOTORECEPTOR PIGMENT).	53-80								
POP1G_HUMAN	GREEN-SENSITIVE OPSIN (GREEN CONE PHOTORECEPTOR PIGMENT).	220-247								
POP1R_HUMAN	RED-SENSITIVE OPSIN (RED CONE PHOTORECEPTOR PIGMENT).	90-117	238-266							
POPSB_HUMAN	OSTEOPONTIN PRECURSOR (BONE SIALOPROTEIN 1) (URINARY STONE PROTEIN)	90-117	238-266							
POTC_HUMAN	ORNITHINE CARBAMOYLTRANSFERASE PRECURSOR (EC 2.1.3.3).	238-264								
POTNC_HUMAN	OSTEONECTIN PRECURSOR (BASEMENT MEMBRANE PROTEIN BM-40)	170-204								
POXYB_HUMAN	OXYSTEROL-BINDING PROTEIN.	177-207								
POXYR_HUMAN	OXYTOCIN RECEPTOR (OT-R).	86-123	190-217	290-317	577-604					
PP16T_HUMAN	RETINOBLASTOMA-ASSOCIATED PROTEIN-LIKE 1(97 KD HOMOLOG (P107)	136-163	423-449							
PP1DP_HUMAN	DNA POLYMERASE ALPHA HOLOENZYME-ASSOCIATED PROTEIN P1.	19-46	637-664							
PP47_HUMAN	PLECKSTRIN (P47).	298-323								
PP4RA_HUMAN	PROLYL 4-HYDROXYLASE ALPHA SUBUNIT PRECURSOR (EC 1.14.11.2)	39-69	191-218							
PP90_HUMAN	MITOCHONDRIAL MATRIX PROTEIN P1 PRECURSOR (P40 LYMPHOCYTE PROTEIN)	72-99	271-298	361-407						
PPISA_HUMAN	PHOSPHATIDYLINOSITOL 3-KINASE REGULATORY ALPHA SUBUNIT (P1)-KINASE	12-39	423-476	586-613	640-715					
PPAP1_HUMAN	PANCREATITIS ASSOCIATED PROTEIN 1 PRECURSOR.	77-104								
PPAX1_HUMAN	PAIRED BOX PROTEIN PAX-1 (B-CELL SPECIFIC TRANSCRIPTION FACTOR)	137-187								
PPDGA_HUMAN	PLATELET-DERIVED GROWTH FACTOR, A CHAIN PRECURSOR (PDGF A-CHAIN)	31-65								
PPECI_HUMAN	PLATELET ENDOTHELIAL CELL ADHESION MOLECULE PRECURSOR (PECAM-1)	615-719								
PPERE_HUMAN	PROENKEPHALIN A PRECURSOR.	142-176								
PPERI_HUMAN	EOSINOPHIL PEROXIDASE PRECURSOR (EC 1.11.1.7) (EPO) (FRAGMENT)	308-335								
PPIUF_HUMAN	PEPTIDYL-PROLYL CIS-TRANS ISOMERASE FKBP5 (FK506-BINDING PROTEIN 5)	411-438								
PPLF_HUMAN	PEPTIDYL-PROLYL CIS-TRANS ISOMERASE FKBP1A (FK506-BINDING PROTEIN 1A	21-55								
PPT4L_HUMAN	PLATELET BASIC PROTEIN PRECURSOR (PBP) (CONTAINS: CONNECTIVE-TISSUE	73-100								
PPGCA_HUMAN	PLATELET BASIC PROTEIN PRECURSOR (LYMPHOCYTE PROTEIN P1 PRECURSOR (CSPCP)	64-98	1190-1417	1353-1380						
PPGCS_HUMAN	CARTILAGE-SPECIFIC PROTEOGLYCAN CORE PROTEIN PRECURSOR (CSPCP)	87-118								
PPGDH_HUMAN	LARGE FIBROBLAST PROTEOGLYCAN PRECURSOR (VERSICAN) (CHONDROITIN	354-381	465-493							
PPGDR_HUMAN	15-HYDROXYPROSTAGLANDIN DEHYDROGENASE (NAD+) (EC 1.1.1.141) (PGDH)	64-94	347-395	461-488	524-551	986-1058				
PPGFB_HUMAN	BETA PLATELET-DERIVED GROWTH FACTOR RECEPTOR PRECURSOR (EC 2.7.1.112)	331-358								
PPGHS_HUMAN	ALPHA PLATELET-DERIVED GROWTH FACTOR RECEPTOR PRECURSOR	31-100								
PPGI1_HUMAN	PROSTAGLANDIN G/H SYNTHASE PRECURSOR (EC 1.14.99.1) (CYCLOOXYGENASE)	64-98	1190-1417	1353-1380						
PPH4H_HUMAN	BONE/CARTILAGE PROTEOGLYCAN I PRECURSOR (BIGLYCAN) (PG-S1)	87-118								
PPHB_HUMAN	PHENYLALANINE-4-HYDROXYLASE (EC 1.14.16.1) (PAH) (PHE-4-	354-381	465-493							
PPHOB_HUMAN	PROHIBITIN.	41-68								
PPHO5_HUMAN	PHOSDUCIN (33 KD PHOTOTRANSDUCING PROTEIN) (MEKA PROTEIN)	184-225								
PPHS1_HUMAN	GLYCOGEN PHOSPHORYLASE, LIVER FORM (EC 2.4.1.1)	116-143								
PPHS3_HUMAN	GLYCOGEN PHOSPHORYLASE, MUSCLE FORM (EC 2.4.1.1).	332-359								
PPHS5_HUMAN	GLYCOGEN PHOSPHORYLASE, BRAIN FORM (EC 2.4.1.1).	333-360								
PPIP4_HUMAN	1-PHOSPHATIDYLINOSITOL-4,5-BISPHOSPHATE PHOSPHODIESTERASE BETA 2	908-935								

PCGENE	101x179x4 Motif Search on All Human Protein Sequences	AREA 1	AREA 1	AREA 1	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
LINKNAME	PROTEIN									
PPD1_HUMAN	1-PHOSPHATIDYLINOSITOL-4,5-BISPHOSPHATE PHOSPHODIESTERASE GAMMA 2	141-169	239-266							
PPLAX_HUMAN	PLAKOGLOBIN (DESMOPLAKIN III)	373-400								
PPLS1_HUMAN	L-PLASTIN (T-KUBUN)	507-534								
PPLS1_HUMAN	T-PLASTIN (T-KUBUN)	510-561								
PPM23_HUMAN	PERIPHERAL MYELIN PROTEIN 22 (PMP-22)	2-33								
PPMGB_HUMAN	PHOSPHOGLYCERATE MUTASE, BRAIN FORM (EC 5.4.2.1) (PGAM-B) (EC 5.4.2.4)	81-111								
PPMGM_HUMA	PHOSPHOGLYCERATE MUTASE, MUSCLE FORM (EC 5.4.2.1) (PGAM-M)	81-113								
PPMLI_HUMAN	PROBABLE TRANSCRIPTION FACTOR PML-1.	551-585								
PPMLX_HUMAN	PROBABLE TRANSCRIPTION FACTOR PML-X	551-585								
PPMSE_HUMAN	AUTOANTIGEN PM-SCL	103-130								
PPOGA_HUMAN	DNA-BINDING PROTEIN PO-GA	14-51	182-209	610-637	667-699					
PPOL1_HUMAN	RETROVIRUS-RELATED POL POLYPROTEIN (REVERSE TRANSCRIPTASE	724-804								
PPOL3_HUMAN	RETROVIRUS-RELATED POL POLYPROTEIN (FRAGMENT)	78-138	171-205							
PPORJ_HUMAN	OUTER MITOCHONDRIAL MEMBRANE PROTEIN PORIN (VOLTAGE-DEPENDENT ANION	33-76	189-216							
PPPAP_HUMAN	PROSTATIC ACID PHOSPHATASE PRECURSOR (EC 3.1.3.2)	235-269								
PPPA5_HUMAN	RED CELL ACID PHOSPHATASE 1, ISOZYME S (EC 3.1.3.2) (ACP1)	26-53								
PPPOL_HUMAN	NAD(+)--ADP-RIBOSYLTRANSFERASE (EC 2.4.2.30) (POLY (ADP-RIBOSE)	699-729	972-1003							
PPRC1_HUMAN	PROTEASOME COMPONENT C1 (EC 3.4.99.46) (MACROPAIN SUBUNIT C2)	39-66								
PPRC3_HUMAN	PROTEASOME COMPONENT C3 (EC 3.4.99.46) (MACROPAIN SUBUNIT C3)	34-61								
PPRC9_HUMAN	PROTEASOME COMPONENT C9 (EC 3.4.99.46) (MACROPAIN SUBUNIT C9)	203-261								
PPRGR_HUMAN	PROGESTERONE RECEPTOR (PR) (FORMS A AND B)	846-890								
PPRT5_HUMAN	VITAMIN K-DEPENDENT PROTEIN S (BLOOD CLOTTING) PRECURSOR	337-371								
PPRTZ_HUMAN	VITAMIN K-DEPENDENT PROTEIN Z PRECURSOR	29-56								
PPSOR_HUMAN	PSORIASIN	63-92								
PPSPD_HUMAN	PULMONARY SURFACTANT-ASSOCIATED PROTEIN D PRECURSOR (PSP-D) (SP-D)	224-251								
PPTHY_HUMAN	PARATHYROID HORMONE PRECURSOR (PARATHYRIN)	86-113								
PPTN1_HUMAN	PROTEIN-TYROSINE PHOSPHATASE 1B (EC 3.1.3.48) (PTP-1B)	136-177								
PPTN2_HUMAN	T-CELL PROTEIN-TYROSINE PHOSPHATASE (EC 3.1.3.48) (TCPTP)	59-86	138-178							
PPTN4_HUMAN	PROTEIN-TYROSINE PHOSPHATASE 1C (EC 3.1.3.48) (PTP-1C) (HEMATOPOIETIC	227-261	512-580							
PPTNC_HUMAN	PROTEIN-TYROSINE PHOSPHATASE 2C (EC 3.1.3.48) (PTP-2C) (PTP-1D)	41-68	218-245							
PPTNR_HUMAN	PARATHYROID HORMONE/PARATHYROID HORMONE-RELATED PEPTIDE	618-645	695-722							
PPTN3_HUMAN	PENTAXON-RELATED PROTEIN PTX3 PRECURSOR	74-101								
PPUR3_HUMAN	PHOSPHORIBOSYLAMINE--GLYCINE LIGASE (EC 6.3.4.13) (GARS) (GLYCINAMIDE	803-830								
PPUR6_HUMAN	MULTIFUNCTIONAL PROTEIN ADE2H1 (PHOSPHORIBOSYLAMINOIMIDAZOLE-	391-418								
PPYL1_HUMAN	ADENYLOSUCCINATE LYASE (EC 4.3.2.2) (ADENYLOSUCCINASE) (ASL)	204-231								
PPYR1_HUMAN	URIDINE 5'-MONOPHOSPHATE SYNTHASE (UMP SYNTHASE) (OROTATE	120-150								
PPYR2_HUMAN	CTP SYNTHASE (EC 6.3.4.2) (UTP--AMMONIA LIGASE) (CTP SYNTHETASE).	86-113	300-334							
PRIP_HUMAN	PREGNANCY ZONE PROTEIN PRECURSOR	1115-1154	1990-1024	1162-1189	1405-1432					
PRA7A_HUMAN	TRANSCRIPTION FACTOR IIF, ALPHA SUBUNIT (TFIIF, ALPHA SUBUNIT)	4174-301								
PRAB1_HUMAN	RAS-RELATED PROTEIN RAB-1.	38-65								
PRAB4_HUMAN	RAS-RELATED PROTEIN RAB-4.	122-150								
PRADI_HUMAN	RADIXIN	308-335	414-463	510-537						
PRB11_HUMAN	RAS-RELATED PROTEIN RAB-11 (24KG) (YL1).	151-178								
PRBB3_HUMAN	RETINOBLASTOMA BINDING PROTEIN 3 (RBBP-3) (PRB-BINDING PROTEIN E2F-1)	129-156	161-223							
PRDP_HUMAN	RD PROTEIN.	8-33								
PREN1_HUMAN	RENIN PRECURSOR, RENAL (EC 3.4.23.15) (ANGIOTENSINOGENASE)	138-165								
PREST_HUMAN	RESTIN (CYTOPLASMIC LINKER PROTEIN-170 ALPHA-2) (CLIP-170).	190-217	333-370	445-472	531-619	744-771	784-852	1023-1050	1088-1139	1137-1184
		1216-1306								
PRFA1_HUMAN	REPLICATION PROTEIN A 70 KD DNA-BINDING SUBUNIT (RP-A) (RF-A)	208-235	425-455							
PRFP_HUMAN	TRANSFORMING PROTEIN (RFP) (RET FINGER PROTEIN)	183-217								
PRH_HUMAN	BLOOD GROUP H(O) POLYPEPTIDE	361-388								
PRI1_HUMAN	RIBOPHORIN I PRECURSOR.	81-108	496-530							
PRI2_HUMAN	RIBOPHORIN II PRECURSOR.	143-172	361-388							
PRIR1_HUMAN	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE M1 CHAIN (EC 1.17.4.1)	42-69	370-400							
PRL13_HUMAN	60S RIBOSOMAL PROTEIN L13 (EPSTEIN-BARR VIRUS SMALL RNA ASSOCIATED	78-112								
PRL26_HUMAN	60S RIBOSOMAL PROTEIN L26	55-89	103-137							

PCGENE	1972:1784 Motif Search on All Human Protein Sequences	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9	AREA10
FILE NAME	PROTEIN										
PRL9_HUMAN	60S RIBOSOMAL PROTEIN L9.	146-192									
PLL40_HUMAN	60S ACIDIC RIBOSOMAL PROTEIN P0 (LUCE)	178-165									
PR52_HUMAN	52 KD RO PROTEIN (SJOGREN SYNDROME TYPE A ANTIGEN (SS-A))	190-233	238-265								
PR60_HUMAN	60 KD RO PROTEIN (SJOGREN SYNDROME TYPE A ANTIGEN (SS-A)).	192-245									
PRDC_HUMAN	HETEROGENEOUS NUCLEAR RIBONUCLEOPROTEINS C1/C2 (HNRNP C1 AND HNRNP	16-43									
PROL_HUMAN	HETEROGENEOUS RIBONUCLEOPROTEIN L (HNRPL)	501-538									
PROU_HUMAN	HETEROGENEOUS RIBONUCLEOPROTEIN U	630-657									
PDP81_HUMAN	DNA-DIRECTED RNA POLYMERASE II 215 KD POLYPEPTIDE	269-296	665-720	879-906	1314-1341	1371-1398					
PDP82_HUMAN	DNA-DIRECTED RNA POLYMERASE II 140 KD POLYPEPTIDE	626-667	1008-1035								
PRPD_HUMAN	DNA-DIRECTED RNA POLYMERASE II 33 KD POLYPEPTIDE	242-274									
PRUXA_HUMAN	RETINOIC ACID RECEPTOR RXR-ALPHA.	318-352									
PRUXB_HUMAN	RETINOIC ACID RECEPTOR RXR-BETA ISOFORM 1	378-403									
PRUXC_HUMAN	RETINOIC ACID RECEPTOR RXR-BETA ISOFORM 2	396-423									
PRS12_HUMAN	40S RIBOSOMAL PROTEIN S12	60-87									
PRS16_HUMAN	40S RIBOSOMAL PROTEIN S16	89-116									
PRS25_HUMAN	40S RIBOSOMAL PROTEIN S25	26-53									
PRS27_HUMAN	40S RIBOSOMAL PROTEIN S27A	14-41									
PRS7_HUMAN	40S RIBOSOMAL PROTEIN S7 (S8)	73-100									
PRS9_HUMAN	40S RIBOSOMAL PROTEIN S9	146-161									
PRTC1_HUMAN	RAS-LIKE PROTEIN TC1	123-150									
PRU1A_HUMAN	U1 SMALL NUCLEAR RIBONUCLEOPROTEIN A (U1 SNRNP A PROTEIN)	13-47									
PRU2B_HUMAN	U2 SMALL NUCLEAR RIBONUCLEOPROTEIN B"	17-44									
PRYR6_HUMAN	RYANODINE RECEPTOR, SKELETAL MUSCLE	134-188	495-522	866-893	2790-2797	2820-2847	3504-3511	3529-3556	3912-3939	4921-4948	
PS10A_HUMAN	S-100 PROTEIN, ALPHA CHAIN	12-34									
PS10B_HUMAN	S-100 PROTEIN, BETA CHAIN	14-36									
PS10D_HUMAN	S-100D PROTEIN	31-58									
PSAHH_HUMAN	ADENOSYLHOMOCYSTEINASE (EC 3.3.1.1) (S-ADENOSYL-L-HOMOCYSTEINE	389-416									
PSAT1_HUMAN	DNA-BINDING PROTEIN SATB1	709-736									
PSCA_HUMAN	SQUAMOUS CELL CARCINOMA ANTIGEN (SCCA) (PROTEIN T4-A)	78-105									
PSCF_HUMAN	STEM CELL FACTOR PRECURSOR (SCF)	74-101									
PSEM1_HUMAN	SEMENOGELIN I PROTEIN PRECURSOR (SGI) (CONTAINS: SEMINAL BASIC	64-91	176-226	288-329	334-368						
PSEM2_HUMAN	SEMENOGELIN II PRECURSOR (SGII)	71-98	183-226	304-355	405-439	539-575					
PSET_HUMAN	SET PROTEIN	38-65	154-181								
PSG1_HUMAN	SECRETOGRANIN I PRECURSOR (CHROMOGRANIN B)	146-178									
PSG2_HUMAN	SECRETOGRANIN II PRECURSOR (CHROMOGRANIN C)	254-281	290-317	534-561							
PSIAL_HUMAN	BONE SIALOPROTEIN II PRECURSOR (BSP II)	84-113	155-193	756-783							
PSN2L_HUMAN	POSSIBLE GLOBAL TRANSCRIPTION ACTIVATOR SNF2L	211-238	345-372								
PSNO3_HUMAN	SKI-RELATED ONCOGENE SNON	414-441									
PSPCA_HUMAN	SPECTRIN ALPHA CHAIN.	193-220	570-621	655-712	1099-1126	1461-1502	1882-1909	1988-2022	2120-2154	2223-2250	
		2246-2273									
PSPCB_HUMAN	SPECTRIN BETA CHAIN, ERYTHROCYTE	136-197	316-350	486-520	648-675	987-1021	1027-1063	1287-1324	1341-1374	1834-1861	
PSPTE_HUMAN	SEPIAPTERIN REDUCTASE (EC 1.1.1.153) (SPR)	90-124									
PSRF_HUMAN	SERUM RESPONSE FACTOR (SRF)	77-104	480-507								
PSRPA_HUMAN	SIGNAL RECOGNITION PARTICLE RECEPTOR ALPHA SUBUNIT (SR-ALPHA)	78-110									
PSSR1_HUMAN	SOMATOSTATIN RECEPTOR TYPE 1.	289-316									
PSTNA_HUMAN	STATHMIN (PHOSPHOPROTEIN P19) (ONCOPROTEIN P18) (LEUKEMIA-ASSOCIATED	47-74									
PSUIS_HUMAN	SUCRASE-ISOMALTASE, INTESTINAL (EC 3.2.1.48)/(EC 3.2.1.10)	1748-1775									
PSYB1_HUMAN	SYNAPTOBREVIN 1.	31-67									
PSYDJ_HUMAN	ASPARTYL-TRNA SYNTHETASE ALPHA-2 SUBUNIT (EC 6.1.1.12) (ASPARTATE-	44-71									
PSYEP_HUMAN	MULTIFUNCTIONAL AMINOACYL-TRNA SYNTHETASE (CONTAINS: GLUTAMYL-TRN	174-201	740-771								
PSYH_HUMAN	HISTIDYL-TRNA SYNTHETASE (EC 6.1.1.21) (HISTIDINE--TRNA LIGASE)	380-442	468-502								
PSYT1_HUMAN	SYNAPTOTAGMIN I (P65).	140-167	230-257								
PSYTC_HUMAN	THREONYL-TRNA SYNTHETASE, CYTOPLASMIC (EC 6.1.1.3) (THREONINE--TRNA	497-524	618-645								
PSYV_HUMAN	VALYL-TRNA SYNTHETASE (EC 6.1.1.9) (VALINE--TRNA LIGASE) (VALRS).	230-257	413-440								
PSYW_HUMAN	TRYPTOPHANYL-TRNA SYNTHETASE (EC 6.1.1.2) (TRYPTOPHAN--TRNA LIGASE)	93-127	196-223								
PTBB_HUMAN	TRANSCRIPTION INITIATION FACTOR IIE, BETA CHAIN (TFIIE-BETA)	34-48									
PTAF_HUMAN	TRANSCRIPTION FACTOR AP-4 (FRAGMENT)	169-196	245-272								

PCGENE	107x1178 of Motif Search on All Human Protein Sequences										
LINENAME	PROTEIN	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1
PTAJB_HUMAN	TRANSCRIPTION FACTOR JUN-B	296-333									
PTAJD_HUMAN	TRANSCRIPTION FACTOR JUN-D	291-333									
PTAU1_HUMAN	MICROTUBULE-ASSOCIATED PROTEIN TAU	278-303									
PTAU2_HUMAN	MICROTUBULE-ASSOCIATED PROTEIN TAU, FETAL	211-238									
PTCO1_HUMAN	TRANSCOBALAMIN I PRECURSOR.	201-241	330-357								
PTCP1_HUMAN	T-COMPLEX PROTEIN 1 (TCP-1)	316-343									
PTDT_HUMAN	DNA NUCLEOTIDYLEXOTRANSFERASE (EC 2.7.7.31) (TERMINAL ADDITION ENZYME)	61-95									
PTEK_HUMAN	RECEPTOR TYROSINE PROTEIN KINASE TEK PRECURSOR (EC 2.7.1.112) (HPK-6)	644-678	969-996	1007-1036							
PTF2B_HUMAN	TRANSCRIPTION INITIATION FACTOR IIB (TFIIB)	135-162									
PTFE1_HUMAN	TRANSCRIPTION FACTOR E1 (FRAGMENT)	43-70	122-149	178-226							
PTF5_HUMAN	TRANSCRIPTION ELONGATION FACTOR S-II	29-56									
PTF_HUMAN	TISSUE FACTOR PRECURSOR (TF) (COAGULATION FACTOR III)	148-175									
PTGF1_HUMAN	TRANSFORMING GROWTH FACTOR BETA 1 PRECURSOR (TGF-BETA 1)	148-185									
PTGF3_HUMAN	TRANSFORMING GROWTH FACTOR BETA 3 PRECURSOR (TGF-BETA 3) (CELL GROWTH INHIBITING FACTOR)	241-276									
PTGFA_HUMAN	TRANSFORMING GROWTH FACTOR ALPHA PRECURSOR (TGF-ALPHA) (EGF-LIKE TGF)	87-114									
PTGLK_HUMAN	PROTEIN-GLUTAMINE GAMMA-GLUTAMYLTRANSFERASE K (EC 2.3.2.13)	358-385									
PTHBS_HUMAN	THROMBOSPONDIN PRECURSOR.	110-165	284-314								
PTHIK_HUMAN	3-KETOACYL-COA THIOLASE PEROXISOMAL PRECURSOR (EC 2.3.1.16) (BETA-	185-212									
PTKNB_HUMAN	PROTACTYKININ BETA PRECURSOR (CONTAINS: SUBSTANCE P; NEUROKININ A	11-38									
PTLE1_HUMAN	TRANSDUCIN-LIKE ENHANCER PROTEIN 1	626-653									
PTLE2_HUMAN	TRANSDUCIN-LIKE ENHANCER PROTEIN 2	94-121									
PTLE4_HUMAN	TRANSDUCIN-LIKE ENHANCER PROTEIN 4 (FRAGMENT)	304-331									
PTOPA_HUMAN	DNA TOPOISOMERASE II, ALPHA ISOZYME (EC 5.99.1.3)	19-46	503-532								
PTOPB_HUMAN	DNA TOPOISOMERASE II, BETA ISOZYME (EC 5.99.1.3)	35-63	616-647								
PTPM3_HUMAN	TROPOMYOSIN, FIBROBLAST ISOFORM TM3	18-74	82-116								
PTPMA_HUMAN	TROPOMYOSIN ALPHA CHAIN, SKELETAL MUSCLE	18-43	43-74	82-116	147-174	191-237	243-277				
PTPMB_HUMAN	TROPOMYOSIN BETA CHAIN, SKELETAL MUSCLE	37-116	193-240								
PTPMC_HUMAN	TROPOMYOSIN ALPHA CHAIN, CARDIAC MUSCLE	18-74	82-116	193-237							
PTPMF_HUMAN	TROPOMYOSIN, FIBROBLAST AND EPITHELIAL MUSCLE-TYPE (TM30) (TME1)	37-116	218-240	243-270							
PTPMG_HUMAN	TROPOMYOSIN, FIBROBLAST NON-MUSCLE TYPE (TM30PL)	46-80	111-138	138-199	207-234						
PTPNI_HUMAN	TROPOMYOSIN, CYTOSKELETAL TYPE (TM30NM)	46-80	111-138	172-199							
PTPNS_HUMAN	TROPOMYOSIN ALPHA CHAIN, SMOOTH MUSCLE (FRAGMENT)	25-59	147-176								
PTPP2_HUMAN	TRIPEPTIDYL-PEPTIDASE II (EC 3.4.14.10) (TPP II) (TRIPEPTIDYL	153-187	1004-1031	1160-1187							
PTPR_HUMAN	TPR ONCOGENE (FRAGMENT)	82-107									
PTRJ6_HUMAN	TREB36 PROTEIN	18-45	242-269								
PTRFR_HUMAN	THYROTROPIN-RELEASING HORMONE RECEPTOR (TRH-R) (THYROLIBERIN	349-383									
PTRJC_HUMAN	TROPONIN I, CARDIAC MUSCLE	36-63									
PTRXA_HUMAN	HIGH AFFINITY NERVE GROWTH FACTOR RECEPTOR PRECURSOR (EC 2.7.1.112)	66-93	112-148								
PTR3R_HUMAN	TRANSFERRIN RECEPTOR PROTEIN (TR) (ANTIGEN CD71) (T9)	188-215	366-393								
PTSHR_HUMAN	THYROTROPIN RECEPTOR PRECURSOR (TSH-R)	87-117	430-447								
PTTK_HUMAN	PROTEIN KINASE TYK (EC 2.7.1.-)	170-197	324-359	510-544	549-583						
PTYK1_HUMAN	NON-RECEPTOR TYROSINE-PROTEIN KINASE TYK1 (EC 2.7.1.112)	150-177									
PUBA1_HUMAN	UBIQUITIN-ACTIVATING ENZYME E1 (A1S9 PROTEIN)	448-475									
PUBF1_HUMAN	NUCLEOLAR TRANSCRIPTION FACTOR 1 (UPSTREAM BINDING FACTOR 1) (UBF-1)	227-254									
PUDP2_HUMAN	UDP-GLUCURONOSYLTRANSFERASE PRECURSOR, MICROSOMAL (EC 2.4.1.17)	223-254									
PUFO_HUMAN	RECEPTOR TYROSINE-PROTEIN KINASE UFO PRECURSOR (EC 2.7.1.112)	488-522									
PUSF1_HUMAN	UPSTREAM STIMULATORY FACTOR 1	251-285									
PVATC_HUMAN	VACUOLAR ATP SYNTHASE SUBUNIT C (EC 3.6.1.34) (V-ATPASE C SUBUNIT)	47-74	117-147								
PVIL1_HUMAN	VILLIN	358-392	427-461	911-944							
PVME_HUMAN	VIMENTIN	119-146	233-260								
PVNC_HUMAN	VINCULIN	108-135									
PVPRT_HUMAN	RETROVIRUS-RELATED PROTEASE (EC 3.4.23.-)	95-134									
PWEE1_HUMAN	WEE1-LIKE PROTEIN KINASE (EC 2.7.1.112)	354-388									
PWT1_HUMAN	WILMS' TUMOR PROTEIN (WT33)	247-274									
PXBF1_HUMAN	X BOX BINDING PROTEIN-1 (XBP-1) (HLEB1 PROTEIN)	97-135									
PXPAC_HUMAN	DNA-REPAIR PROTEIN COMPLEMENTING XP-A CELLS (XERODERMA PIGMENTOSUM	180-211									
PXPCC_HUMAN	DNA-REPAIR PROTEIN COMPLEMENTING XP-C CELLS (XERODERMA PIGMENTOSUM	134-168	701-738								

PCGENE	107:170:1 Motif Search in All Human Protein Sequences	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
FILENAME	PROTEIN									
P00DC_HUMAN	DNA-REPAIR PROTEIN COMPLEMENTING XP-D CELLS (XERODERMA PIGMENTOSUM	384-391								
P00DC_HUMAN	DNA-REPAIR PROTEIN COMPLEMENTING XP-D CELLS (XERODERMA PIGMENTOSUM	83-110	715-766	1047-1081						
P00DC_HUMAN	DNA-REPAIR PROTEIN COMPLEMENTING XP-D CELLS (XERODERMA PIGMENTOSUM	23-57								
P00CC_HUMAN	DNA-REPAIR PROTEIN XBCC1.	29-56								
P2N10_HUMAN	ZINC FINGER PROTEIN 10 (ZINC FINGER PROTEIN KOX1) (FRAGMENT)	13-63	307-334	1071-1098	1401-1500	2013-2057	2146-2180			
P2N40_HUMAN	ZINC FINGER PROTEIN 40 (HUMAN IMMUNODEFICIENCY VIRUS TYPE I ENHANCER-	3-30	201-228							
P2N43_HUMAN	ZINC FINGER PROTEIN 43 (BAC1744) (FRAGMENT)									
P2N46_HUMAN	ZINC FINGER PROTEIN 46 (ZINC FINGER PROTEIN KUP)	121-149								

TABLE X

Search Results Summary for PCTLZIP, P1CTLZIP, and P2CTLZIP Motifs

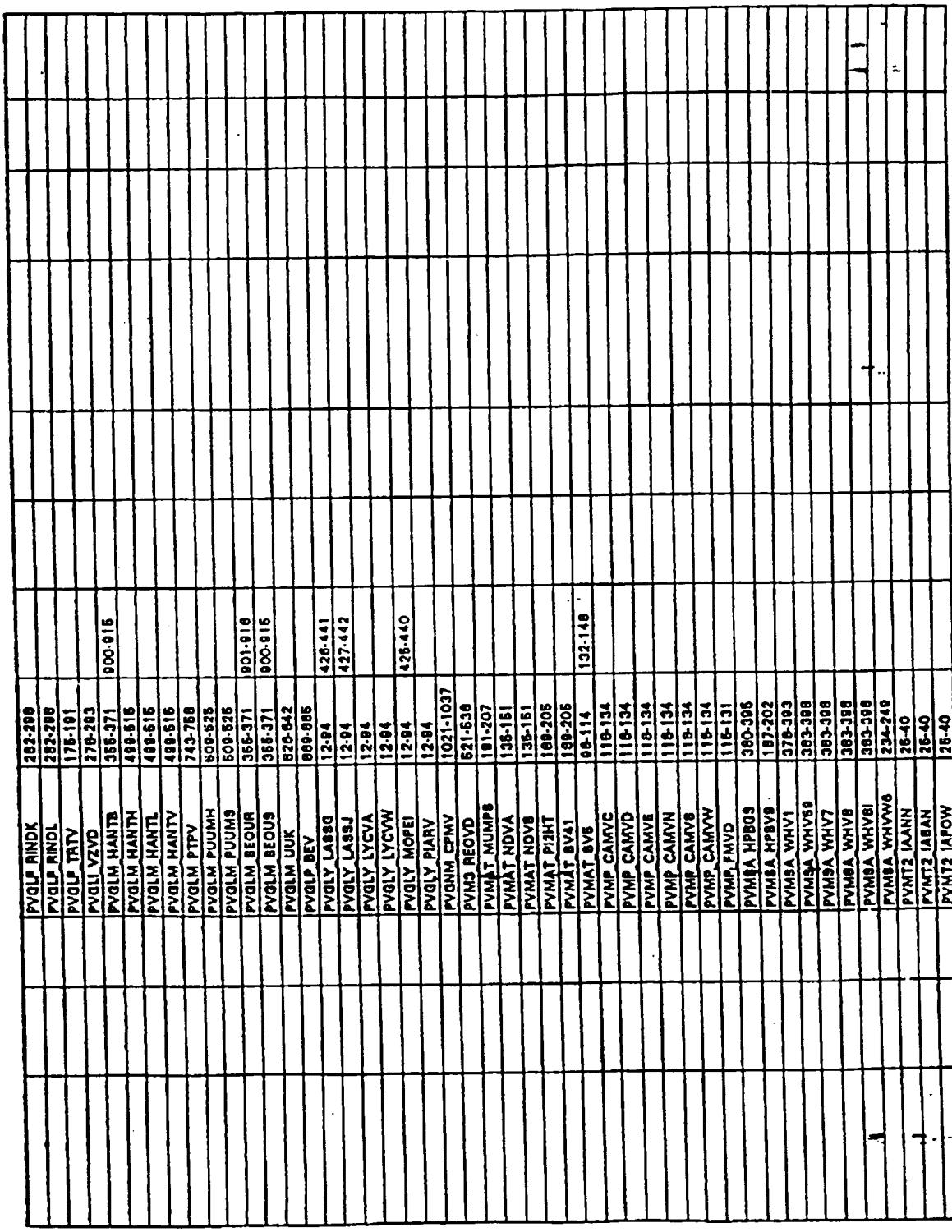
PCTLZIP		P1CTLZIP						P2CTLZIP					
LIBRARY FILE		LIBRARY FILE						LIBRARY FILE					
PENV_FQAMV	481-498	PENV_BVD8	434-460					PENV_BVD8	828-842				
PENV_HV1MA	438-453	PENV_BV27	463-478					PENV_BV27	854-871				
PENV_HV1MP	183-198	PENV_FQAMV	481-498	864-880				PENV_FENV1	30-47	830-847			
PENV_HV1RH	446-460	PENV_HV1KB	752-768					PENV_FVP8	781-798				
PENV_HV1SG	186-201	PENV_HV1MA	437-453					PENV_FV8D	778-798				
PENV_HV122	123-138	PENV_HV1MP	183-198					PENV_FVT2	780-797				
PENV_HV1ZH	438-453	PENV_HV1RH	444-460					PENV_FLVC8	38-58	824-841			
PENV_HV28E	750-766	PENV_HV181	738-754					PENV_FLVDL	806-822				
PENV_HV2D1	741-756	PENV_HV18C	186-201					PENV_FLVLB	826-842				
PENV_HV2Q1	741-758	PENV_HV122	123-138					PENV_FLV8A	802-819				
PENV_HV2N2	742-757	PENV_HV123	117-133					PENV_FQAMV	710-727	857-874			
PENV_HV2RO	761-780	PENV_HV12H	437-453					PENV_FBV0A	826-842				
PENV_HV288	743-758	PENV_HV28E	750-765					PENV_FBV0B	806-822				
PENV_HV28T	746-760	PENV_HV2D1	741-756					PENV_FBV8M	808-826				
PENV_J3RV	104-119	PENV_HV2Q1	741-758					PENV_HV10Y	123-140				
PENV_MMTV8	818-833	PENV_HV2N2	742-757					PENV_HV122	410-427				
PENV_MMTVG	818-833	PENV_HV2RO	761-780					PENV_HV123	184-171				
PENV_BVMK	138-154	PENV_HV288	743-758					PENV_HV2CA	760-787				
PENV_BVML	138-154	PENV_HV28T	746-760					PENV_MCFF	800-817				
PHEMA_CVBLY	381-408	PENV_J8RV	104-119	541-557				PENV_MCFF3	801-818				
PHEMA_CVBM	381-408	PENV_MCFF	397-413					PENV_MLVAV	830-847				
PHEMA_CVBQ	381-408	PENV_MCFF3	397-413					PENV_MLVC8	826-842				
PHEMA_CVMOC	381-408	PENV_MLVAV	427-443					PENV_MLVF5	838-858				
PHEMA_CVMA6	402-417	PENV_MLVC8	422-438					PENV_MLVFF	838-858				
PHEMA_CVM9	403-418	PENV_MLVHO	423-439					PENV_MLVFP	838-858				
PHEMA_INBAA	286-310	PENV_MLVMO	428-442					PENV_MLVHO	826-843				
PHEMA_INBBE	303-318	PENV_MLVRD	424-440					PENV_MLVKI	167-184				
PHEMA_INBBO	283-308	PENV_MLVRK	424-440					PENV_MLVMO	828-848				
PHEMA_INBEN	301-318	PENV_MMTVB	818-833					PENV_MLVRD	824-841				
PHEMA_INBFU	286-301	PENV_MMTVG	818-833					PENV_MLVRK	824-841				
PHEMA_INBGL	286-311	PENV_BFV1	864-880					PENV_MBVFB	170-187				
PHEMA_INBHK	283-308	PENV_BFV3L	861-877					PENV_RMCFV	803-820				
PHEMA_INBIB	286-303	PENV_BVD8	83-109					PENV_BFV1	710-727	857-874			
PHEMA_INBIO	286-314	PENV_BVMK	138-154	802-810				PENV_BFV3L	707-724	854-871			
PHEMA_INBLE	302-317	PENV_BVML	138-154	801-817				PENV_BVM1	786-783				
PHEMA_INBMD	282-307	PENV_BV84	806-822					PENV_BVMK	786-782				
PHEMA_INBME	286-311	PENV_BV8P	810-826					PENV_BVML	784-781				
PHEMA_INBNA	286-303	PHEMA_CDVO	36-52					PENV_BV84	786-786				
PHEMA_INBOR	301-316	PHEMA_CVBLY	381-400					PENV_BV8P	773-790				
PHEMA_INBSI	301-316	PHEMA_CVBM	381-408					PENV_BMRVH	838-863				
PHEMA_INBSJ	286-313	PHEMA_CVBQ	381-408					PENV_BM8AV	42-59				
PHEMA_INBUB	284-309	PHEMA_CVMOC	381-408					PHEMA_CDVO	36-53	200-217			
PHEMA_INBVI	286-311	PHEMA_CVMA6	402-417					PHEMA_CVBLY	381-408				
PHEMA_INBVK	303-318	PHEMA_CVM9	403-418					PHEMA_CVBM	381-408				
PHEMA_INBYB	286-301	PHEMA_IAAIC	237-253					PHEMA_CVBQ	381-408				

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PVMT2_IALE1	25-40		PHEMA_PI3B	324-340				PHEMA_SV41	85-102		
PVMT2_IALE2	25-40		PHEMA_PI3H4	324-340				PHEMA_SV5	84-101		
PVMT2_IAMAN	25-40		PHEMA_PI3HA	324-340				PHEMA_SV5CM	84-101		
PVMT2_IAPUE	25-40		PHEMA_PI3HT	324-340				PHEMA_SV5CP	84-101		
PVMT2_IASIN	25-40		PHEMA_PI3HU	324-340				PHEMA_SV5LN	84-101		
PVMT2_IAUDO	25-40		PHEMA_PI3HV	324-340				PVF05_VACCC	280-297		
PVMT2_IAWIL	25-40		PHEMA_PI3HW	324-340				PVF05_VACCP	280-297		
PVMT9_MYXVL	226-241		PHEMA_PI3HX	324-340				PVF05_VACCV	281-298		
			PHEMA_RINDK	368-383				PVF09_VACCC	176-193		
			PHEMA_SV5	7-94				PVF09_VACCV	176-193		
			PHEMA_SV5CM	7-94				PVG27_HSV8A	209-226		
			PHEMA_SV5CP	7-94				PVG28_HSV11	173-190		
			PHEMA_SV5LN	7-94				PVG39_HSV11	648-665		
			PVENV_DHV11	42-57				PVG43_HSV11	109-126	521-538	
			PVENV_EAV	26-41				PVG57_HSV11	171-188		
			PVFP2_FOWPV	88-104				PVG72_HSV11	1252-1269		
			PVFP7_CAPVK	89-104				PVGF1_IBVB	3073-3090		
			PVFU6_VACCB	72-87				PVGL2_IBVB	1094-1111		
			PVG01_HSVE8	189-184				PVGLB_HSVE1	736-753		
			PVG01_HSV11	209-226	317-332			PVGLB_HSVE4	675-692		
			PVG08_HSV11	134-149				PVGLB_HSVEA	736-753		
			PVG10_HSV8A	109-124				PVGLB_HSVEB	736-753		
			PVG11_HSV11	103-119				PVGLB_HSVEL	736-753		
			PVG12_HSV11	270-286				PVGLB_ILTVB	597-614		
			PVG1_BPV1R	76-92				PVGLB_ILTVS	607-624		
			PVG29_HSV11	20-35				PVGLB_ILTVT	607-624		
			PVG88_BPOX2	22-37				PVGLC_PRVIF	180-197		
			PVG36_HSV8A	108-123				PVGLE_VZVD	469-486		
			PVG37_HSV11	284-299				PVGLF_SV5	401-418		
			PVG41_HSV11	244-260				PVGLH_HCMVA	385-382		
			PVG48_HSV11	1244-1260				PVGLH_HCMVT	364-381		
			PVG55_HSV11	22-37	143-158			PVGLH_HSV11	245-262	803-820	
			PVG58_HSV11	288-283				PVGLH_HSV1E	245-262	803-820	
			PVG59_HSV11	101-117				PVGLI_HSV11	43-60		
			PVG68_HSV8A	130-146	330-346			PVGLM_BUNL7	81-98		
			PVG69_HSV11	267-282				PVGLM_BUNSH	81-98		
			PVG95_HSV11	362-378	618-633			PVGLM_PUUMH	712-729		
			PVG71_HSV8A	88-105				PVGLM_PUUMS	712-729		
			PVG8_BPPH2	234-249				PVGLM_RVFV	344-361		
			PVG8_BPPZA	234-249				PVGLM_RVFVZ	344-361		
			PVG9_BPV1R	57-72				PVGLY_LASSG	12-94		
			PVGF1_IBVB	2210-2226				PVGLY_LASSJ	12-94		
			PVGL2_CVBF	123-139	174-190	264-279		PVGLY_LYCVA	12-94		
			PVGL2_CVBL9	123-139	174-190	264-279		PVGLY_LYCVW	12-94		
			PVGL2_CVBLY	123-139	174-190	264-279		PVGLY_MOPEI	12-94		
			PVGL2_CVBM	123-139	174-190	264-279		PVM1_REOVD	280-297		
			PVGL2_CVBQ	31-47	123-139	174-190	264-279	PVM1_REOVL	280-297		

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PVQLP_RINDK	282-288	
PVQLP_RINDL	282-288	
PVQLP_TRTV	176-181	
PVQLI_VZVD	278-283	
PVQLM_HANTB	355-371	900-915
PVQLM_HANTH	499-515	
PVQLM_HANTL	499-515	
PVQLM_HANTV	499-515	
PVQLM_PTPV	743-758	
PVQLM_PUUMH	909-925	
PVQLM_PUUM9	509-525	
PVQLM_SEQUR	355-371	901-916
PVQLM_SEQU9	355-371	900-915
PVQLM_UUK	826-842	
PVQLP_BEV	000-005	
PVQLY_LA88G	12-84	426-441
PVQLY_LA85J	12-84	427-442
PVQLY_LYCVA	12-84	
PVQLY_LYCVW	12-84	
PVQLY_MOPEI	12-84	425-440
PVQLY_PIARV	12-84	
PVQNM_CPMV	1021-1037	
PVM3_REOVD	621-636	
PVMAT_MUMP8	191-207	
PVMAT_NDVA	135-151	
PVMAT_NDV8	135-151	
PVMAT_PI2HT	189-205	
PVMAT_SV41	189-205	
PVMAT_SV8	98-114	132-148
PVMP_CAMVC	118-134	
PVMP_CAMVD	118-134	
PVMP_CAMVE	118-134	
PVMP_CAMVN	118-134	
PVMP_CAMV8	118-134	
PVMP_CAMVW	118-134	
PVMP_FMVD	115-131	
PVM8A_HPB03	380-395	
PVM8A_HPBV8	187-202	
PVM9A_WHV1	378-393	
PVM9A_WHV59	383-398	
PVM9A_WHV7	383-398	
PVM9A_WHV8	383-398	
PVM9A_WHV81	383-398	
PVM8A_WHVW6	234-249	
PVMT2_IAANN	26-40	
PVMT2_IABAN	26-40	
PVMT2_IAPOW	26-40	

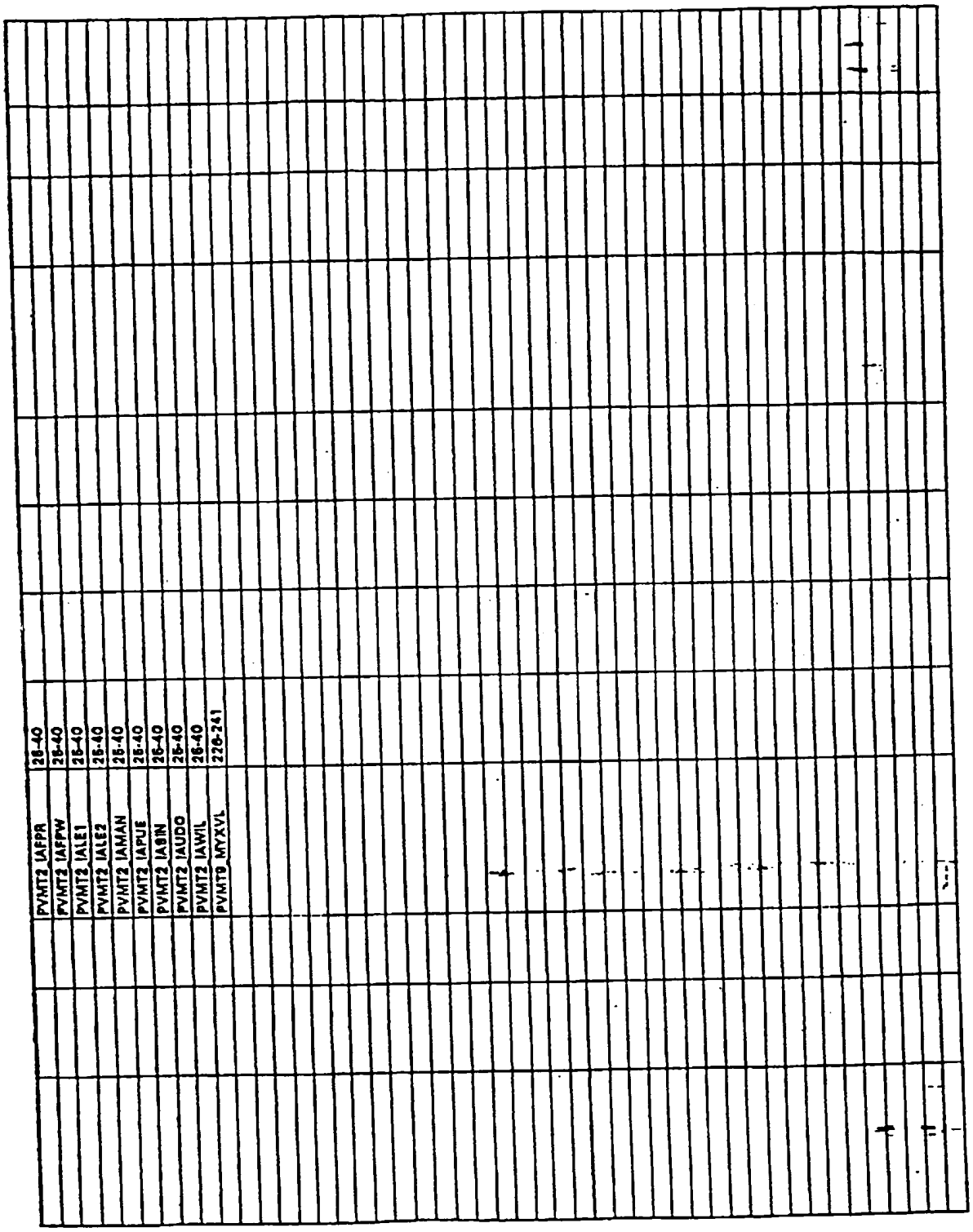

PVMT2_IAFPR 28-40
PVMT2_IAFPW 28-40
PVMT2_IALE1 28-40
PVMT2_IALE2 28-40
PVMT2_IAMAN 28-40
PVMT2_IAPUE 28-40
PVMT2_IASIN 28-40
PVMT2_IAUDO 28-40
PVMT2_IAWIL 28-40
PVMT0_MYXVL 220-241

TABLE XI

Search Results Summary for P3CTLZIP, P4CTLZIP, P5CTLZIP, and P6CTLZIP Motifs

P3CTL2IP		P4CTL2IP		PECTL2IP			P6CTL2IP			
LIBRARY FILE		LIBRARY FILE		LIBRARY FILE			LIBRARY FILE			
PENV_BIV27	147-166	PENV1_FRSFV	380-398	PENV1_FRSFV	380-400		PENV_BIV06	47-66	626-646	
PENV_CAEVC	810-828	PENV_AVI6U	98-117	PENV2_FRSFV	380-400		PENV_BIV27	47-66	147-166	564-575
PENV_CAEVG	808-826	PENV_BIV27	147-166	PENV_BAEVM	170-190		PENV_FENV1	226-246	630-661	
PENV_HV2B6	760-780	PENV_HV12H	123-142	FENV_FIVPE	781-801		PENV_FLVC6	624-645		
PENV_HV2D1	741-759	PENV_HV2D2	0-20	PENV_FIV3D	778-798		PENV_FLVOL	447-466	806-826	
PENV_HV2I1	741-759	PENV_HV25B	778-797	PENV_FIVT2	780-800		PENV_FLVL6	407-466	625-646	
PENV_HV2N2	742-760	PENV_J3RV	641-660	PENV_FLVGL	0-20		PENV_FLV9A	444-466	602-623	
PENV_HV2RO	761-780	PENV_RSVP	633-652	PENV_FOAMV	256-276	824-844	PENV_FOAMV	163-174	957-978	
PENV_HV29B	743-761	PHEMA_VACCC	173-192	PENV_F3VQA	0-20		PENV_F3VQA	407-466	826-846	
PENV_HV2BT	746-763	PHEMA_VACCI	173-192	PENV_HV1C4	420-440		PENV_F6VOB	447-460	806-826	
PENV_J3RV	378-394	PHEMA_VACCT	173-192	PENV_HV2CA	760-770		PENV_F8V9M	460-471	808-829	
PHEMA_PI2H	118-138	PHEMA_VACCV	173-192	PENV_MLVF6	400-420		PENV_F8V6T	467-488		
PHEMA_PI2HT	118-138	PVENV_BEV	62-81	PENV_MMTV8	843-863		PENV_GALV	52-73	618-640	
PHEMA_BV41	56-73	PVENV_MCV1	61-80	PENV_MMTVO	843-863		PENV_HV28E	760-771		
PVENV_THOGV	473-491	PVENV_MCV2	61-80	PENV_OMVV3	76-96		PENV_HV2G1	741-762		
PVG18_BPP22	83-101	PVFU8_ORFNZ	28-48	PENV_RSVP	42-62		PENV_HV2N2	742-763		
PVQ24_BPT4	116-133	PVQ01_H8VEB	160-180	PENV_SFV1	824-844		PENV_HV2RO	761-772		
PVQ36_H8V8A	344-362	PVQ01_VACCC	378-396	PENV_SFV3L	921-941		PENV_HV2BT	746-766		
PVQ40_H8VI1	14-32	PVQ01_VACCV	316-334	PENV_SIVM1	700-720		PENV_MCFF	800-821		
PVQ50_H8V8A	6-24	PVQ01_VARV	378-396	PENV_SIVMK	706-726		PENV_MCFF3	801-822		
PVQ61_BPT4	63-81	PVQ06_BPT4	827-846	PENV_SIVML	704-724		PENV_MLVAV	630-651		
PVQ61_H8VI1	84-102	PVQ10_H8VI1	36-54	PENV_SIV84	708-728		PENV_MLVC8	626-646		
PVQ66_H8VI1	156-173	PVQ11_H8VI1	103-122	160-180	PENV_SIV8P	773-793	PENV_MLVF6	638-660		
PVQF1_I8V8	2788-2806	3374-3382	PVQ1_BPPH2	31-50	PHEMA_CDVO	403-613	PENV_MLVFF	638-660		
PVQL2_CVH22	1063-1071	PVQ1_BPV1R	659-678	PHEMA_CV8LY	381-411		PENV_MLVFP	626-647		
PVQL2_I8V8	1056-1074	PVQ20_BPT4	231-250	PHEMA_CV8M	381-411		PENV_MLVHO	187-188		
PVQL2_I8V8	1066-1073	PVQ32_V2VD	90-108	PHEMA_CV8O	381-411		PENV_MLVKI	628-650		
PVQL2_I8VO2	1066-1074	PVQ36_BPK3	132-161	PHEMA_CVHOC	381-411		PENV_MLVMO	624-646		
PVQL2_I8VK	1066-1073	PVQ37_BPT2	18-38	820-840	PHEMA_CVMA8	402-422	PENV_MLVRD	624-646		
PVQL2_I8VM	1066-1073	PVQ37_BPT4	18-38	826-844	PHEMA_IACKO	81-101	PENV_MLVRK	170-191		
PVQL8_H3V81	680-678	888-707	PVQ39_H3VI1	1036-1067	PHEMA_IADMA	81-101	PENV_M9VFB	803-824		
PVQL8_H8V8C	692-710	PVQ41_H3VI1	62-81	PHEMA_MUMPM	387-417		PENV_RMCFV	867-878		
PVQL8_H3V9A	684-802	PVQ43_BPPF3	380-398	PHEMA_MUMPR	387-417		PENV_SFV1	867-878		
PVQL8_ILTV8	740-758	PVQ46_BPPF1	337-356	PHEMA_MUMP9	387-417		PENV_SFV3L	157-178	954-976	
PVQL8_ILTV8	760-780	PVQ69_H3VI1	142-161	PHEMA_PHODV	403-613		PENV_SIVA1	437-458		
PVQL8_ILTVT	760-780	PVQ81_H8VI1	117-136	PHEMA_PI1HW	322-342		PENV_SIVAQ	442-463		
PVQLC_V2VD	431-449	PVQ87_H3VI1	318-337	1072-1081	PHEMA_PI2H	13-33	PENV_SIVAI	421-442		
PVQLC_V2V8	431-449	PVQF1_I8V8	1587-1606	2108-2127	PHEMA_PI2HT	13-33	PENV_SIVAT	435-456		
PVQLF_PI3H4	2-24	PVQL2_CV8F	991-1010	PHEMA_RINDL	497-517		PENV_SM9AV	42-63		
PVQLH_H8V80	314-332	PVQL2_CV8L0	991-1010	PHEMA_SENDS	322-342		PHEMA_CVMA8	402-423		
PVQLH_H8VE4	814-832	PVQL2_CV8LY	991-1010	PHEMA_SENDF	322-342		PHEMA_IADE1	206-227		
PVQLH_H8VE8	807-826	PVQL2_CV8M	991-1010	PHEMA_SENDH	322-342		PHEMA_MUMPM	226-246		
PVQLI_H3V11	6-24	PVQL2_CV8O	991-1010	PHEMA_SENDJ	322-342		PHEMA_MUMPR	226-246		
PVQNM_BMV	878-898	PVQL2_CV8V	991-1010	PHEMA_SEND2	322-342		PHEMA_MUMP8	226-246		
PVM01_VACCC	134-152	177-196	PVQL2_CVH22	788-787	1116-1134	PVENV_LEV	27-47	148-168	PHEMA_PHODV	213-234

PVM01_VACCV	83-101	126-144	PVGL2_CVM4	999-1018		PVENV_THOOV	356-376		PHEMA_PI2H	13-34		
PVM1_REOVD	227-246		PVGL2_CVMA5	847-866		PVG01_VACCC	298-318		PHEMA_PI2HT	13-34		
PVM1_REOVL	227-246		PVGL2_CVMJH	858-877		PVG01_VACCV	237-257		PHEMA_8V6	7-26	379-400	
PVMAT_HR6VA	44-62		PVGL2_CVPF6	84-83	1030-1057	PVG01_VARV	298-318		PHEMA_8V6CM	7-26	379-400	
PVMAT_NDVA	190-208		PVGL2_CVPPU	84-83	1030-1055	PVG06_VACCC	31-51		PHEMA_8V6CP	7-26	379-400	
PVMAT_NDV8	190-208		PVGL2_CVPR8	814-833		PVG06_VARV	31-51		PHEMA_8V6LN	7-26	379-400	
PVMP_CAMVC	183-201		PVGL2_CVPRM	814-833		PVG09_8PPF1	26-46		PVG01_H8VE8	189-190		
PVMP_CAMVD	183-201		PVGL2_FIPV	1041-1060		PVG12_H8VI1	151-171		PVG01_H8VI1	589-610		
PVMP_CAMVE	183-201		PVGL2_IBV8	586-607	771-700	PVG22_H8VI1	300-320		PVG23_H8VI1	314-336		
PVMP_CAMVN	183-201		PVGL2_IBVB	587-606	770-789	PVG38_H8VI1	640-668	870-990	PVG37_8POX2	66-86		
PVMP_CAMV8	183-201		PVGL2_IBVD2	588-607	771-700	PVG51_H8VI1	29-49		PVG43_H8VI1	157-178		
PVMP_CAMVW	183-201		PVGL2_IBVK	587-606	770-789	PVG63_H8VI1	336-356		PVG55_H8VI1	288-309		
PVMP_FMVD	180-198		PVGL2_IBVM	587-606	770-780	PVG66_H8VI1	117-137		PVG66_H8V8A	86-106		
			PVGLB_HCMVA	706-726		PVG74_H8V8A	124-144		PVG58_H8VI1	1165-1178		
			PVGLB_HCMVT	707-726		PVGL2_IBV8	328-348		PVG58_H8V8A	266-287		
			PVGLB_H8V6U	117-136		PVGL2_IBVB	327-347		PVG60_H8VI1	30-51		
			PVGLB_ILTV6	256-275		PVGL2_IBVD2	328-348		PVG63_H8VI1	238-259		
			PVGLB_ILTV8	266-285		PVGL2_IBVD3	328-348		PVGF1_IBVB	1858-1877		
			PVGLB_ILTVT	266-285		PVGL2_IBVK	327-347		PVGH3_HCMVA	157-178		
			PVGLC_H6V11	3-24	487-486	PVGL2_IBVM	327-347	378-388	PVGL2_CVBF	1259-1280		
			PVGLC_H8V1K	3-24	487-486	PVGL2_IBVU2	310-330		PVGL2_CVBL8	1259-1280		
			PVGLC_H8VBC	476-494		PVGLB_EBV	732-752		PVGL2_CVBLY	1259-1280		
			PVGLG_CHAV	436-455		PVGLB_HCMVA	750-770		PVGL2_CVBM	1259-1280		
			PVGLG_RABVH	372-391		PVGLB_HCMVT	751-771		PVGL2_CVBQ	1259-1280		
			PVGLI_H8VE8	44-63		PVGLB_H8V23	79-99		PVGL2_CVBV	1259-1280		
			PVGLI_VZVD	278-297		PVGLB_H8V2H	79-99		PVGL2_CVM4	1317-1338		
			PVGLM_BUNGE	117-136		PVGLB_H8V28	66-86		PVGL2_CVMA5	1265-1286		
			PVGLM_PHV	152-171		PVGLB_H8V8U	72-92		PVGL2_CVMJH	1178-1197		
			PVGLM_PTPV	997-1016		PVGLB_H8VB2	279-299		PVGLB_H8V11	83-104		
			PVGLM_PUUMH	155-174		PVGLB_H8V8A	83-83		PVGLB_H8V1F	82-103		
			PVGLM_PUUMS	155-174		PVGLB_MCMV8	738-758		PVGLB_H8V1K	82-103		
			PVGLM_RVFV	830-849		PVGLF_PI3H4	283-303		PVGLB_H8V1P	83-104		
			PVGLM_RVFVZ	830-849		PVGLG_RABVE	454-474		PVGLB_MCMVS	136-156		
			PVGLM_UUK	655-674		PVGLG_RABVH	454-474		PVGLC_PRVIF	448-467		
			PVGLY_LYGVW	88-108		PVGLG_RABVP	454-474		PVGLF_CDVO	338-357		
			PVQN8_CPMV	1165-1184		PVGLG_RABV8	454-474		PVGLF_MEA8E	224-246		
			PVM3_REOVD	521-540		PVGLG_RABVT	454-474		PVGLF_MEA8I	227-248		
			PVME1_CVBM	171-190		PVGLH_MCMV8	670-690		PVGLF_MEA8Y	224-246		
			PVME1_CVH22	136-155		PVGLM_BUNL7	1326-1345		PVGLF_MUMPM	446-467		
			PVME1_CVPF8	174-193		PVGLM_BUN8H	1326-1345		PVGLF_MUMPR	446-467		
			PVME1_CVPPU	174-193		PVGLM_BUNYW	998-1016		PVGLF_MUMP8	446-467		
			PVME1_CVPRM	174-193		PVGLM_HANT8	999-1019		PVGLF_PHODV	306-326		
			PVME1_CVTKE	171-190		PVGLM_HANTH	1000-1020		PVGLF_PI1HC	456-477		
						PVGLM_HANTL	1001-1021		PVGLF_PI2H	450-471		
						PVGLM_HANTV	1001-1021		PVGLF_PI2HG	450-471		
						PVGLM_RVFVZ	1158-1178		PVGLF_PI2HT	450-471		
						PVGLM_9EOUR	1000-1020		PVGLF_PI38	406-426	453-474	

PVGLM BCUB	888-1018	PVGLF PI3H4	463-474		
PVGLM UUK	926-945	PVGLF RINDK	220-241		
PVGLY LYCYA	12-32	PVGLF RINDL	220-241		
PVGLY LYCYW	12-32	PVGLF BEND5	460-481		
PVGLY PIARV	12-32	PVGLF BENDF	460-481		
PVGNB CPMV	141-161	PVGLF BENDH	460-481		
PVMAT MUMP9	310-330	PVGLF BENDJ	460-481		
PVMAT NDVA	308-328	PVGLF BENDZ	460-481		
PVMAT NDVB	308-328	PVGLF BV41	463-474		
PVMAT PI2HT	308-328	PVGLF BV6	446-467		
PVMAT PI4HA	312-332	PVGLH HCMVA	681-712		
PVMAT PI4HB	312-332	PVGLH HCMVT	680-711		
PVMAT SV41	308-328	PVGLH HBVE4	304-326		
PVMAT SV6	308-328	PVGLH HBVEB	287-310		
PVME1 IBV6	74-94	PVGLH HBVBA	656-679		
PVME1 IBV8	74-94	PVGLI HBV2	2-23		
PVME1 IBVB2	74-94	PVGLI HBV23	2-23		
PVME1 IBVK	74-94	PVGLM BUNGE	187-210		
PVM3A HPBDB	201-221	PVGLM BUNL7	180-211		
PVM3A HPBGB	208-228	PVGLM BUNSH	180-211		
PVM3A HPBHE	283-313	PVGLM BUNYW	183-214		
PVM3A WHV1	207-227	PVGLY LA88G	237-258		
PVM3A WHV60	212-232	PVGLY LA96J	230-250		
PVM3A WHV7	212-232	PVGP8 EBV	67-88		
PVM3A WHV8	212-232	PVM01 VACCC	281-302		
PVM3A WHV8I	212-232	PVM01 VACCV	230-251		
PVM3A WHVW8	63-83	PVMAT HR3VA	109-130		
		PVMAT RINDK	200-221	230-250	
		PVMAT TRTV	122-143		
		PVME1 CVHOC	66-86		
		PVM8A HPBDB	201-222		
		PVM8A HPBV0	70-91		
		PVM8A HPBV2	244-265		
		PVM8A HPBV4	244-265		
		PVM8A HPBV8	244-265		
		PVM8A HPBVA	233-254		
		PVM8A HPBVD	70-91		
		PVM8A HPBVI	233-254		
		PVM8A HPBVJ	233-254		
		PVM8A HPBVL	233-254		
		PVM8A HPBVN	70-91		
		PVM8A HPBVO	233-254		
		PVM8A HPBVP	244-265		
		PVM8A HPBVR	244-265		
		PVM8A HPBVS	70-91"		
		PVM8A HPBVW	233-254		
		PVM8A HPBVY	233-254		

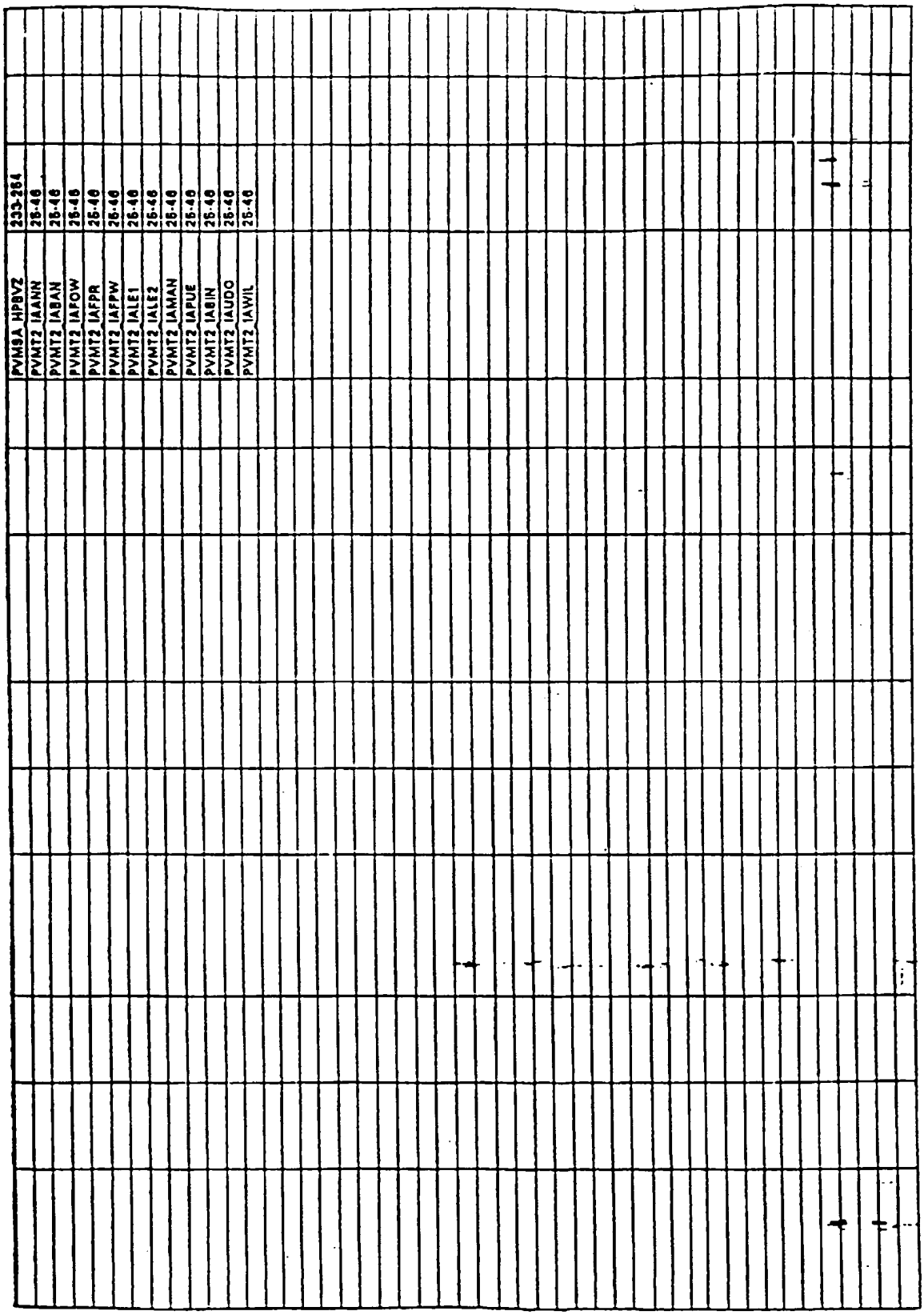

PVM3A_HPBV2 233-264
PVMT2_IAANN 25-40
PVMT2_IABAN 25-40
PVMT2_IAFOW 25-40
PVMT2_IAFPR 25-40
PVMT2_IAFPW 25-40
PVMT2_IALE1 25-40
PVMT2_IALE2 25-40
PVMT2_IAMAN 25-40
PVMT2_IAPUE 25-40
PVMT2_IASIN 25-40
PVMT2_IAUDO 25-40
PVMT2_IAWIL 25-40

TABLE XII

Search Results Summary for P7CTLZIP, P8CTLZIP, and P9CTLZIP Motifs

P7CTL2IP		P8CTL2IP		P8CTL2IP	
LIBRARY FILE		LIBRARY FILE		LIBRARY FILE	
PENV_BARVM	202-224	PENV1_FR9FV	300-403	PENV_BLVAF	303-327
PENV_HV1B1	486-620	PENV2_FR6FV	300-403	PENV_BLVAU	303-327
PENV_HV1B8	493-616	PENV_BIV08	178-201	PENV_BLVAV	303-327
PENV_HV1BN	494-616	PENV_BIV27	207-230	PENV_BLVB2	303-327
PENV_HV1BR	603-636	PENV_FOAMV	804-887	PENV_BLVBG	303-327
PENV_HV1EL	486-617	PENV_HV123	178-198	PENV_BLVJ	303-327
PENV_HV1H2	486-620	PENV_HV28E	3-28	781-804	PENV_FIVPE	781-806
PENV_HV1H3	486-620	PENV_HV2CA	760-773	PENV_FIVSD	778-803
PENV_HV1J3	610-632	PENV_HV2D1	3-28	772-795	PENV_FIVT2	780-804
PENV_HV1JR	480-612	PENV_HV2G1	772-795	PHEMA_CVBLY	381-415
PENV_HV1K8	604-626	PENV_HV2N2	777-800	PHEMA_CVBM	381-415
PENV_HV1MA	600-632	PENV_J9RV	641-664	PHEMA_CVBQ	381-415
PENV_HV1MF	486-618	PENV_8FV1	804-887	PHEMA_CVHOC	381-415
PENV_HV1N0	488-610	PENV_8FV3L	861-884	PHEMA_INCCA	442-466
PENV_HV1PV	486-620	PENV_8IVM1	803-826	PHEMA_INCEN	430-464
PENV_HV1R1	488-611	PENV_8IVMK	802-825	PHEMA_INCOL	430-464
PENV_HV1Z2	123-148	486-617	PENV_8IVML	801-824	PHEMA_INCHY	429-463
PENV_HV1Z8	487-618	PENV_8IV84	800-829	PHEMA_INCJH	443-467
PENV_HV1Z8	606-637	PENV_8IV8P	810-833	PHEMA_INCKY	429-463
PENV_HV1ZH	486-620	PHEMA_CDVO	200-223	PHEMA_INCMI	429-463
PENV_J9RV	378-398	PHEMA_PI2H	86-88	PHEMA_INCNA	429-463
PENV_MPMV	213-238	PHEMA_PI2HT	86-88	PHEMA_INCP1	430-464
PENV_8RV1	213-236	PVF11_VACCC	181-184	PHEMA_INCP2	430-464
PHEMA_IAAIC	37-59	PVF15_VACCC	26-48	PHEMA_INCP3	430-464
PHEMA_IABAN	21-43	PVF18_VACCP	3-28	PHEMA_INCTA	430-464
PHEMA_IADA3	37-59	PVG1L_AMEPV	313-336	PHEMA_INCYA	430-464
PHEMA_IADH2	21-43	PVG28_H9VI1	401-614	PHEMA_MUMPM	101-125
PHEMA_IADH3	21-43	PVG43_H8VI1	322-345	PHEMA_MUMPR	101-125
PHEMA_IADH4	21-43	PVG62_H9VI1	228-262	PHEMA_MUMPS	101-125
PHEMA_IADH6	21-43	PVG67_H8VI1	722-746	PHEMA_PI1HW	28-53
PHEMA_IADH8	21-43	PVGL2_CV8F	10-33	PVENV_BEV	82-86
PHEMA_IADH7	21-43	PVGL2_CVBL9	651-674	PVF05_VACCC	280-304
PHEMA_IADM2	37-59	PVGL2_CVBLY	10-33	PVF05_VACCP	280-304
PHEMA_IADMA	28-50	PVGL3_CVM4	1267-1290	PVF06_VACCV	281-305
PHEMA_IADU3	37-59	PVGL2_CVMA5	1216-1238	PVF09_VACCC	178-200
PHEMA_IAEN8	21-43	PVGL2_CVMJH	1126-1148	PVF09_VACCV	178-200
PHEMA_IAEN7	37-59	PVGL2_CVPF9	1274-1297	PVG01_VZVD	60-82
PHEMA_IAMA0	37-59	PVGL2_CVPPU	1272-1295	PVG10_H8V8A	356-378
PHEMA_IAME1	37-59	PVGL2_CVPR8	1060-1073	PVG12_H8V8A	60-82
PHEMA_IAME2	37-59	PVGL2_CVPRM	1060-1073	PVG18_H8VI1	88-112
PHEMA_IAME8	21-43	PVGL2_FIPV	1277-1300	PVG28_H8VI1	173-197
PHEMA_IANT8	37-59	PVGL2_I8V8	190-210	PVG43_H8VI1	108-131
PHEMA_IAQU7	21-43	PVGL2_I8V8	186-210	PVG67_H8VI1	108-132	1006-1028
PHEMA_IATKM	33-56	PVGL2_I8VD2	186-210	PVG72_H8VI1	720-744
PHEMA_IAUDO	37-59	PVGL2_I8VD3	190-210	PVGF1_I8V8	3001-3028

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PVOLH_HBVE4	814-836
PVOLH_HBVE8	807-828
PVOLI_HCMVA	166-180
PVOLM_PTPV	743-766
PVOLP_BEV	430-462 1540-1568
PVOLY_LA86G	426-448
PVOLY_LA86J	427-448
PVOLY_MOPE1	426-447
PVOP2_EBV	857-879
PVOP3_EBV	864-876
PVM1_REOVD	414-436
PVM1_REOVL	414-436
PVM3_REOVD	304-326
PVMAT_PI1HC	186-217
PVMAT_PI2HT	132-164
PVMAT_BENDF	186-217
PVMAT_BENDH	186-217
PVMAT_BEND2	186-217
PVMAT_BV41	132-164
PVMEM_EBV	131-153
PVMP_CERV	283-316

TABLE XIII

SEARCH RESULTS SUMMARY FOR P12LZIPC MOTIF

PCGENE	PIRCTRZIP	All Viruses (No Bacteriophages)									
FILENAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
P1MK_TRVSY	POTENTIAL 194 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN SYM)	160-378	640-478	600-610	641-661	1011-1030	1299-1325	1385-1409		
P1BI15_VACCC	1BETA 115D	VACCINIA VIRUS (STRAIN COPENHAGEN)	41-56	297-321							
P1BI15_VACCV	1BETA 115D	VACCINIA VIRUS (STRAIN WR)	41-56	297-321							
P1MK_VARV	1BETA 115D	VARIOLA VIRUS	41-56								
P4TI1_FOWPV	ANKYRIN/RUBBIN-III HOMOLOG	FOWLPOX VIRUS (ISOLATE CHALLENGE III)	47-69								
P4TI1_VACCV	94 KD A-TYPE INCLUSION PROTEIN	VACCINIA VIRUS (STRAIN WR)	187-410								
P4TI1_VARV	91 KD A-TYPE INCLUSION PROTEIN	VARIOLA VIRUS	186-411								
P4TI2_HSV11	US 46	HERPES SIMPLEX VIRUS TYPE 1 (STRAIN 17)	370-391								
P4TI2_HSV1F	US 46	HERPES SIMPLEX VIRUS TYPE 1 (STRAIN F)	370-391								
P4TI2_HSV1E8	ALPHA TRANS-INDUCING FACTOR 81 KD PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AUSP)	197-221								
P4TI2_VACCC	PUTATIVE A-TYPE INCLUSION PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	215-241								
P4TI2_VZVD	ALPHA TRANS-INDUCING FACTOR 74 KD PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	201-220								
P4TI3_VACCV	PUTATIVE A-TYPE INCLUSION PROTEIN	VACCINIA VIRUS (STRAIN WR)	61-79	177-197							
P4TI8_HSV1B	ALPHA TRANS-INDUCING PROTEIN	BOVINE HERPESVIRUS TYPE 1 (STRAIN P-8)	41-73								
P4TI8_HSV4A	ALPHA TRANS-INDUCING PROTEIN	EQUINE HERPESVIRUS TYPE 4	181-210	335-362							
P4TI8_HSVEB	ALPHA TRANS-INDUCING PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AUSP)	104-133								
P4TI8_VZVD	ALPHA TRANS-INDUCING PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	129-148								
P4TI_COWPX	A-TYPE INCLUSION PROTEIN	COWPOX VIRUS	201-220								
P5I_BBV	B1 PROTEIN	BLACK BEETLE VIRUS	1106-412	1102-1128							
P5I01_HSV2G	TRANSCRIPTIONAL REGULATORY PROTEIN	HERPES SIMPLEX VIRUS (TYPE 2 STRAIN G)	111-131								
P6CRF_EBV	DCAF1 PROTEIN PRECURSOR	EPSTEIN-BARR VIRUS (STRAIN B95-8)	15-38								
P6KLT_EBV	TRANSCRIPTION ACTIVATOR BRLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	96-121								
PCAJB1_VACCC	CELL SURFACE BINDING PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	16-32	200-224							
PCAJB1_VACCV	CELL SURFACE BINDING PROTEIN	VACCINIA VIRUS (STRAIN WR)	188-203								
PCAJB1_VARV	CELL SURFACE BINDING PROTEIN	VARIOLA VIRUS	188-203								
PCCH1_HSV1A	COMPL CONTROL PROTEIN HOMOLOG PREC	HERPESVIRUS SAIMIRI (STRAIN 11)	126-148								
PCELF_HSV11	CELL FUSION PROTEIN PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 STRAIN 17)	178-196	212-230	216-109						
PCELF_HSV1K	CELL FUSION PROTEIN PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 STRAIN KOS)	178-196	212-230							
PCELF_HSV2H	CELL FUSION PROTEIN PRECURSOR	HERPES SIMPLEX VIRUS TYPE 2 (STRAIN HG52)	178-196	212-230	215-109						
PCELF_HSV2S	CELL FUSION PROTEIN PRECURSOR	HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A)	205-223	249-266							
PCELF_VZVD	CELL FUSION PROTEIN PRECURSOR	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	146-269								
PCOR8_HSV5A	CYCLIN HOMOLOG	HERPESVIRUS SAIMIRI (STRAIN 11)	15-61	216-242							
PCOA1_BPDV	COAT PROTEIN VP1	BUDGERIGAR FLEDGLING DISEASE VIRUS	93-110								
PCOA1_POVBA	COAT PROTEIN VP1	POLYOMAVIRUS BK (STRAIN AS)	33-53	97-123	111-131						
PCOA1_POVBK	COAT PROTEIN VP1	POLYOMAVIRUS BK	35-52	97-123	111-131						
PCOA1_POVBO	COAT PROTEIN VP1	BOVINE POLYOMAVIRUS	96-120								
PCOA1_POVHA	COAT PROTEIN VP1	HAMSTER POLYOMAVIRUS	16-41								
PCOA1_POVJC	COAT PROTEIN VP1	POLYOMAVIRUS JC	17-44	89-115	231-247						
PCOA1_POVLT	COAT PROTEIN VP1	LYMPHOTROPIC POLYOMAVIRUS	97-123								
PCOA1_POVMK	COAT PROTEIN VP1	MOUSE POLYOMAVIRUS (STRAIN KILLIAN)	142-160	231-249							
PCOA1_SV40	COAT PROTEIN VP1	SIMIAN VIRUS 40	37-44	99-125	235-253						
PCOA1_TTV1	COAT PROTEIN TP1	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	86-103								
PCOA2_POVBO	COAT PROTEIN VP2	BOVINE POLYOMAVIRUS	77-104								
PCOA2_POVLY	COAT PROTEIN VP2	LYMPHOTROPIC POLYOMAVIRUS	78-102								
PCOA2_POVMO	COAT PROTEIN VP2	MOUSE POLYOMA VIRUS (STRAIN F)	205-226								
PCOA2_TTV1	COAT PROTEIN TP2	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	33-55								
PCOAT_ABMVW	COAT PROTEIN	ABUTILON MOSAIC VIRUS (ISOLATE WEST INDIA)	140-157								
PCOAT_BOCLV	COAT PROTEIN PRECURSOR	BOCLAVIA VIRUS	381-401								
PCOAT_CHVP1	MAJOR CAPSID PROTEIN	PARAMECIUM BURSARIA CHLORELLA VIRUS 1	184-187	197-209							
PCOAT_CLVK	COAT PROTEIN	CASSAVA LATENT VIRUS (STRAIN WEST KENYAN 84)	163-188								
PCOAT_CLVN	COAT PROTEIN	CASSAVA LATENT VIRUS (STRAIN NIGERIAN)	165-188								
PCOAT_CMVSI	COAT PROTEIN	CYMBIDIUM MOSAIC VIRUS (STRAIN SINGAPORE)	58-76								
PCOAT_CNV	COAT PROTEIN	CUCUMBER NECROSIS VIRUS	19-42								
PCOAT_CSMV	COAT PROTEIN	CLOVER STUNT MOSAIC VIRUS	219-238								
PCOAT_CTV24	COAT PROTEIN	CITRUS TRISTEZA VIRUS (ISOLATE T36)	72-94								
PCOAT_FCV13	COAT PROTEIN	FELINE CALICIVIRUS (STRAIN CFI68 FIV)	564-587	642-664							
PCOAT_FCV74	COAT PROTEIN	FELINE CALICIVIRUS (STRAIN JAPANESE F4)	564-587	642-657							

PCGENE	PIRCHAIN	All Viruses (No Bacteriophage)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7
TITLENAME	PROTEIN	VIRUS							
PCOAT_FCVFP	COAT PROTEIN	FELINE CALICIVIRUS (STRAIN F9)	567-590	641-660					
PCOAT_FPV	COAT PROTEIN VP1	FELINE PANLEUKOPENIA VIRUS	690-703						
PCOAT_FPVP1	COAT PROTEIN VP1	FELINE PANLEUKOPENIA VIRUS (STRAIN 193)	690-703						
PCOAT_HEVS	COAT PROTEIN	HELENIUM VIRUS S	47-66						
PCOAT_MEVA	COAT PROTEIN VP1	MINK ENTERITIS VIRUS (STRAIN ABASHIRI)	685-700						
PCOAT_MMSV	COAT PROTEIN	MELON NECROTIC SPOT VIRUS	135-151						
PCOAT_MSTV	COAT PROTEIN	MAIZE STRIPE VIRUS	1176-1197	204-227					
PCOAT_NMV	COAT PROTEIN	NARCISSUS MOSAIC VIRUS	67-86						
PCOAT_NODAV	COAT PROTEIN PRECURSOR	NODAMURA VIRUS	394-394						
PCOAT_ORSV	COAT PROTEIN	ODONTOGLOSSUM RINGSPOT VIRUS	104-130						
PCOAT_OYMV	COAT PROTEIN	ONONIS YELLOW MOSAIC VIRUS	15-32						
PCOAT_PAVE2	COAT PROTEIN VP2	CANINE PARVOVIRUS (TYPE 2 / STRAIN A72)	547-563						
PCOAT_PAVE3	COAT PROTEIN VP2	CANINE PARVOVIRUS (STRAIN 78039)	683-700						
PCOAT_PAVEB	COAT PROTEIN VP1	CANINE PARVOVIRUS (STRAIN CPV-D CORNELL 326)	360-377						
PCOAT_PAVEN	COAT PROTEIN VP1	CANINE PARVOVIRUS (STRAIN [illegible])	711-728						
PCOAT_PEMV	COAT PROTEIN PRECURSOR	PEPPER MOTTLE VIRUS	233-253						
PCOAT_PHV	COAT PROTEIN	PAPAYA MOSAIC POTEXVIRUS	85-103						
PCOAT_PMMVS	COAT PROTEIN	PEPPER MILD MOTTLE VIRUS (STRAIN SPAIN)	64-84	101-119					
PCOAT_PVSP	COAT PROTEIN	POTATO VIRUS S (STRAIN PERUVIAN)	179-197						
PCOAT_RSV	COAT PROTEIN	RICE STRIPE VIRUS	118-133						
PCOAT_SMWLM	COAT PROTEIN	SATELLITE MAIZE WHITE LINE MOSAIC VIRUS	51-65						
PCOAT_SMYEA	COAT PROTEIN	STRAWBERRY MILD YELLOW EDGE ASSOCIATED VIRUS	57-73						
PCOAT_TAMV	GENOME POLYPROTEIN	TAMARILLO MOSAIC VIRUS	322-337						
PCOAT_TBSVB	COAT PROTEIN	TOMATO BUSHY STUNT VIRUS (STRAIN BS3)	359-383						
PCOAT_TCV	COAT PROTEIN	TURNIP CRINKLE VIRUS	33-49						
PCOAT_TGMV	COAT PROTEIN	TOMATO GOLDEN MOSAIC VIRUS	154-177						
PCOAT_THGMV	COAT PROTEIN	TOBACCO MILD GREEN MOSAIC VIRUS (TMV STRAIN U3)	102-118						
PCOAT_THV	COAT PROTEIN	TOBACCO MOSAIC VIRUS (VULGARE)	102-118						
PCOAT_THV06	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN 06)	102-118						
PCOAT_THVDA	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN DAHLEMENSE)	102-118						
PCOAT_THVER	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN ER)	102-118						
PCOAT_THVHR	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN HOLMES RIBGRASS (HR))	102-118						
PCOAT_THVO	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN O)	102-118						
PCOAT_THVOM	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN OM)	102-118						
PCOAT_THVTO	COAT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN TOMATO)	102-118						
PCOAT_TNVA	COAT PROTEIN	TOBACCO NECROSIS VIRUS (STRAIN A)	119-143						
PCOAT_TNVD	COAT PROTEIN	TOBACCO NECROSIS VIRUS (STRAIN D)	108-124						
PCOLL_HSV3C	COLLAGEN-LIKE PROTEIN	HERPESVIRUS SAIMIRI (SUBGROUP C / STRAIN 488)	71-96						
PCORA_HBV1	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADW2)	79-100						
PCORA_HBV4	CORE ANTIGEN	HEPATITIS B VIRUS (STRAIN ALPHA1)	13-31						
PCORA_HBV5	CORE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADYW)	79-100						
PDNB1_ADE01	PROBABLE DNA-BINDING PROTEIN	HUMAN ADENOVIRUS TYPE 1	71-93						
PDNB1_EBV	MAJOR DNA-BINDING PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	649-671						
PDNB1_HCMVA	MAJOR DNA-BINDING PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	681-705						
PDNB1_HSV1I	MAJOR DNA-BINDING PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	459-476	597-620					
PDNB1_HSV1F	MAJOR DNA-BINDING PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN F)	459-476	597-620					
PDNB1_HSV1K	MAJOR DNA-BINDING PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	459-476	597-620					
PDNB1_HSV2B	MAJOR DNA-BINDING PROTEIN	BOVINE HERPESVIRUS TYPE 1 (STRAIN BAV)	455-472	596-616					
PDNB1_HSV2E	MAJOR DNA-BINDING PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN ABAY)	810-831						
PDNB1_HSV3A	MAJOR DNA-BINDING PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	108-127	610-629	668-687	974-1000			
PDNB1_MCMVS	MAJOR DNA-BINDING PROTEIN	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	617-634						
PDNB1_SCMVC	MAJOR DNA-BINDING PROTEIN	SIMIAN CYTOMEGALOVIRUS (STRAIN COLBURN)	188-211	621-670					
PDNL_VAV	DNA LIGASE	VARIOLA VIRUS	269-294						
PDPOL_ADE01	DNA POLYMERASE	HUMAN ADENOVIRUS TYPE 2	264-283	828-850					
PDPOL_ADE05	DNA POLYMERASE	HUMAN ADENOVIRUS TYPE 5	264-283	828-850					
PDPOL_ADE07	DNA POLYMERASE	HUMAN ADENOVIRUS TYPE 7	331-350	894-917	894-916				
PDPOL_ADE12	DNA POLYMERASE	HUMAN ADENOVIRUS TYPE 12	262-281	561-581	876-898				

PCGENE	PTICTLZIP	All Viruses (No Bacteriophage)									
FILE NAME	PROTEIN	VIRUS	ORF1	ORF2	ORF3	ORF4	ORF5	ORF6	ORF7	ORF8	ORF9
PDPOL_CHEPV	DNA POLYMERASE	CHONDROSTONEUS HERPESVIRUS	418-454	434-470	332-357						
PDPOL_CHVPI	DNA POLYMERASE	CHELONID HERPESVIRUS 1	434-443								
PDPOL_CHVPI	DNA POLYMERASE	PARAMECIUM BURSARIA CHLORELLA VIRUS 1	331-372	424-465							
PDPOL_EBV	DNA POLYMERASE	EPSTEIN-BARR VIRUS (STRAIN B95-8)	334-379	418-463	334-342	667-687	933-990				
PDPOL_FOWPV	DNA POLYMERASE	FOWLPOX VIRUS	60-71	220-261							
PDPOL_HCMVA	DNA POLYMERASE	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	569-587	643-660	1029-1051						
PDPOL_HPBDB	DNA POLYMERASE	DUCK HEPATITIS B VIRUS (BROWN SHANGHAI DUCK ISOLATE 55)	4-29	157-174	332-341	354-377					
PDPOL_HPBDC	DNA POLYMERASE	DUCK HEPATITIS B VIRUS (STRAIN CHINA)	4-29	157-174	321-340	353-371					
PDPOL_HPBDU	DNA POLYMERASE	DUCK HEPATITIS B VIRUS	181-200	213-231							
PDPOL_HPBDW	DNA POLYMERASE	DUCK HEPATITIS B VIRUS (WHITE SHANGHAI DUCK ISOLATE 511)	4-29	157-174	372-391	354-373					
PDPOL_HPBGS	DNA POLYMERASE	GROUND SQUIRREL HEPATITIS VIRUS	448-475								
PDPOL_HPBHE	DNA POLYMERASE	HERON HEPATITIS B VIRUS	4-29	356-373							
PDPOL_HPBV1	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE AIDR/MUTANT)	411-438	441-461	761-780	790-807					
PDPOL_HPBV2	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE AIDR/MUTANT)	411-438	441-461	761-780	790-807					
PDPOL_HPBVD	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE AIDW/STRAIN UKNAW/AUSW382)	80-96	410-437	445-468	761-780					
PDPOL_HPBVP	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE ADW/STRAIN PHILIPPINO/PDW394)	412-439	447-467							
PDPOL_HPBVA	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE ADR)	80-96	410-437	761-780						
PDPOL_HPBVW	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE ADW)	82-98	405-422	440-456						
PDPOL_HPBVY	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE AYW)	80-96	398-426	434-457	750-767					
PDPOL_HPBV2	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE ADYW)	80-96	398-426	434-457						
PDPOL_HSV11	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 1/STRAIN 17)	797-817	877-897	1011-1090						
PDPOL_HSV1A	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 1/STRAIN ANGELOTTI)	797-817	877-897	1011-1090						
PDPOL_HSV1K	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 1/STRAIN KOS)	797-817	877-897	1011-1090						
PDPOL_HSV1S	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 1/STRAIN SC16)	797-817	877-897	1011-1090						
PDPOL_HSV21	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 2/STRAIN 186)	602-622	682-702	1016-1095						
PDPOL_HSV2U	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 2/STRAIN UGANDA-1102)	632-652	706-807	858-882						
PDPOL_HSVEB	DNA POLYMERASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	281-299	377-393	454-477	798-818					
PDPOL_HSVSA	DNA POLYMERASE	ICTALURID HERPESVIRUS 1	317-335	397-418	344-364	514-532	933-972				
PDPOL_MCMVS	DNA POLYMERASE	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	118-135	385-410	315-333	180-807					
PDPOL_MPVAC	DNA POLYMERASE	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	103-122	315-333	180-807						
PDPOL_VAV	DNA POLYMERASE	VARIOLA VIRUS	118-516	676-691							
PDPOL_VZVD	DNA POLYMERASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	421-437								
PDPOL_WHV1	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 1	313-331	383-382	440-463	715-740	757-781				
PDPOL_WHV1	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 1	446-473					1006-1024			
PDPOL_WHV39	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 39	451-478								
PDPOL_WHV1	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 1	451-478								
PDPOL_WHV1	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 1	450-477	555-571							
PDPOL_WHV1I	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS 1	451-478								
PDPOL_WHVW6	DNA POLYMERASE	WOODCHUCK HEPATITIS VIRUS W64 (ISOLATE PW533)	123-150								
PDPOL_HPBVY	DNA POLYMERASE	HEPATITIS B VIRUS (SUBTYPE AYW)	399-426	434-450	750-767						
PDUT_HCMVA	DUTPASE	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	107-126								
PDUT_HSVEA	DUTPASE	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	130-154								
PDUT_HSVEB	DUTPASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	130-149								
PDUT_HSV11	DUTPASE	ICTALURID HERPESVIRUS 1	12-31								
PDUT_HSVSA	DUTPASE	HERPESVIRUS SAIMIRI (STRAIN 11)	23-45	79-104	168-187						
PEIIT_ADE40	EARLY E1A 17 KD PROTEIN	MOUSE ADENOVIRUS TYPE 1	24-47								
PEIA6_ADE07	EARLY E1A 61 KD PROTEIN	HUMAN ADENOVIRUS TYPE 7	8-31								
PEIA_ADE04	EARLY E1A 35 KD PROTEIN	HUMAN ADENOVIRUS TYPE 4	104-120								
PEIA_ADE07	EARLY E1A 35 KD PROTEIN	HUMAN ADENOVIRUS TYPE 7	8-33								
PEIA_ADE37	EARLY E1A 35 KD PROTEIN	SIMIAN ADENOVIRUS TYPE 7	173-189	318-334							
PEIRL_ADE12	E1B PROTEIN, LARGE T-ANTIGEN	HUMAN ADENOVIRUS TYPE 12	431-467								

FCGENE	FUNCTION	All Viruses (No Bacteriophage)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
FILE NAME	PROTEIN	VIRUS								
PE1B1_ADE01	E1B PROTEIN, LARGE T-ANTIGEN	CANINE ADENOVIRUS TYPE 1	101-112							
PE1B1_ADE07	EARLY E1B 54 KD PROTEIN	TUPAIA ADENOVIRUS	75-101							
PE1B3_ADE01	E1B PROTEIN, SMALL T-ANTIGEN	CANINE ADENOVIRUS TYPE 2	93-99							
PE1B3_ADE41	E1B PROTEIN, SMALL T-ANTIGEN	MOUSE ADENOVIRUS TYPE 1	114-138							
PE1B_ADE03	EARLY E1B 19.4 KD PROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 3	1-31	13-40						
PE1B_ADE03	EARLY E1B 19.4 KD PROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 3	1-31	13-40						
PE1B_ADE07	EARLY E1B 19.4 KD PROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 7	1-34							
PE1C_ADE01	EARLY E1A 11.6 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 5	37-53							
PE1C_ADE01	EARLY E1A 10.9 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 5	19-43							
PE1D_ADE01	EARLY E1A 10.5 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 5	20-46							
PE1D_ADE07	EARLY E1D 17 KD PROTEIN	HUMAN ADENOVIRUS TYPE 7	36-62							
PE1E_ADE01	EARLY E1D 14.3 KD PROTEIN	HUMAN ADENOVIRUS TYPE 5	108-135							
PE1E_ADE01	EARLY E1B 19.1 KD PROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 5	52-72							
PE1E_ADE07	EARLY E1B 19.9 KD PROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 7	52-72							
PE1E_ADE01	EARLY E1A 13.6 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 5	103-125							
PE1I_ADE01	EARLY E1B 36.1 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 5	146-167							
PE1I_ADE07	EARLY E1B 35.5 KD GLYCOPROTEIN	HUMAN ADENOVIRUS TYPE 7	146-167							
PE1J_ADE01	EARLY E1A 13.3 KD GLYCOPROTEIN	CANINE ADENOVIRUS TYPE 1 (STRAIN GLAXO)	155-177							
PE1G_ADE41	EARLY E1B 17.1 KD GLYCOPROTEIN	MOUSE ADENOVIRUS TYPE 1	105-127							
PE4I_ADE01	PROBABLE EARLY E4 11 KD PROTEIN	HUMAN ADENOVIRUS TYPE 5	16-37							
PE4I_ADE07	PROBABLE EARLY E4 11 KD PROTEIN	HUMAN ADENOVIRUS TYPE 7	16-37							
PE4I_ADE41	PROBABLE EARLY E4 11 KD PROTEIN	MOUSE ADENOVIRUS TYPE 1	61-80							
PE5J_ADE03	EARLY E4 34 KD PROTEIN	HUMAN ADENOVIRUS TYPE 3	80-106							
PEAD_BIV	EARLY ANTIGEN PROTEIN D	EPSTEIN-BARR VIRUS (STRAIN B95-8)	387-386							
PEAR_EBV	EARLY ANTIGEN PROTEIN R	EPSTEIN-BARR VIRUS (STRAIN B95-8)	159-184							
PENA1_EBV	EBNA-1 NUCLEAR PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	336-361							
PENA1_EBV	EBNA-1 NUCLEAR PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	111-111	642-661						
PETI_VARV	EARLY TRANSCRIPTION FACTOR 70 KD SUBUNIT	VARIOLA VIRUS	31-41							
PENV_FIBVV	ENV POLYPROTEIN PRECURSOR	FIBROMA VIRUS (STRAIN FOCUS TORNIMO VIRUS	388-407							
PENV_FIBVV	ENV POLYPROTEIN PRECURSOR	FIBROMA VIRUS (STRAIN FOCUS-SHOPE VIRUS	388-407							
PENV_AVISU	COAT PROTEIN (GP37)	AVIAN SARCOMA VIRUS (STRAIN UR2)	206-233							
PENV_BAEVM	ENV POLYPROTEIN	BABOON ENDOGENOUS VIRUS (STRAIN M7)	81-117							
PENV_BIVM	ENV POLYPROTEIN PRECURSOR	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 106)	176-196	382-324						
PENV_BIVM	ENV POLYPROTEIN PRECURSOR	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127)	47-68	176-201	533-546	414-450				
PENV_BIVM	ENV POLYPROTEIN PRECURSOR	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127)	47-68	147-168	307-330	461-479	534-555			
PENV_BLVAJ	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AJ8 FUCAN ISOLATE FLK)	301-327							
PENV_BLVAU	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AUSTRALIAN ISOLATE)	301-327							
PENV_BLVAV	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AMERICAN ISOLATE YDM)	301-327							
PENV_BLVB1	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (BELGIUM ISOLATE LB285)	301-327							
PENV_BLVB1	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (BELGIUM ISOLATE LB99)	301-327							
PENV_BLVJ	ENV POLYPROTEIN	BOVINE LEUKEMIA VIRUS (JAPANESE ISOLATE BLV-1)	301-327							
PENV_FENV1	ENV POLYPROTEIN PRECURSOR	FELINE ENDOGENOUS VIRUS ECE1	38-47	223-246	610-651					
PENV_FENVE	ENV POLYPROTEIN PRECURSOR	FELINE ENDOGENOUS VIRUS ECE1	38-47	223-246	610-651					
PENV_FLVCI	ENV POLYPROTEIN PRECURSOR	FELINE LEUKEMIA PRIVITAIS (CLONE CFE-6)	38-55	624-641						
PENV_FLVCL	ENV POLYPROTEIN PRECURSOR	FELINE LEUKEMIA VIRUS (STRAIN ACLASGOW-1)	9-29	467-488	601-626					
PENV_FLVLB	ENV POLYPROTEIN PRECURSOR	FELINE LEUKEMIA VIRUS (STRAIN LAMBDA 61)	467-488	623-646						
PENV_FLVSA	ENV POLYPROTEIN PRECURSOR	FELINE LEUKEMIA VIRUS (STRAIN SARAH)	444-465	603-623						
PENV_FOAMV	ENV POLYPROTEIN	HUMAN SPUMARETROVIRUS (FOAMY VIRUS)	153-174	233-255	100-121	481-496	510-527	864-887	924-951	957-978
PENV_FSVGA	ENV POLYPROTEIN PRECURSOR	FELINE SARCOMA VIRUS (STRAIN GARDNER-ARNSTEIN)	467-488	623-646						
PENV_FSVGB	ENV POLYPROTEIN PRECURSOR	FELINE SARCOMA VIRUS (STRAIN GA)	467-488	603-626						
PENV_FSVSM	ENV POLYPROTEIN PRECURSOR	FELINE SARCOMA VIRUS (STRAIN SM)	450-471	608-629						
PENV_FSVST	ENV POLYPROTEIN PRECURSOR	FELINE SARCOMA VIRUS (STRAIN SNYDER-THEILEN)	467-488							
PENV_GALV	ENV POLYPROTEIN PRECURSOR	GIBBON APE LEUKEMIA VIRUS	515-540							
PENV_HV1B1	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE)	498-520							
PENV_HV1H2	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE)	493-515							
PENV_HV1BH	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE)	494-516							
PENV_HV1BR	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE)	501-523							

FCGENE	FUCTLZIP	All Viruses (No Retroviruses)								
FILENAME	FASTLUP	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PENV_HVIC4	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE ANT70)	428 448							
PENV_HVIEL	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE ELI)	495 417							
PENV_HVIHB	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE HXB2)	498 526							
PENV_HVIHI	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE HXB3)	498 526							
PENV_HVIJJ	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE JJ1)	510 533							
PENV_HVIPA	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE PACH2)	490 513							
PENV_HVIRB	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (STRAIN RF/HTLV-IIIB)	500 526	512 536						
PENV_HVIMA	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE MAL)	490 522							
PENV_HVIMN	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE MN)	496 538							
PENV_HVINS	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NEW YORK 5 ISOLATE)	178 703							
PENV_HVINY	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NY5 ISOLATE)	488 510							
PENV_HVIOY	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (OYI ISOLATE)	131 149							
PENV_HVIPV	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	498 538							
PENV_HVIRH	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (RF/HAT ISOLATE)	445 460							
PENV_HVISI	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SF162 ISOLATE)	488 511	518 534						
PENV_HVIS3	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SF33 ISOLATE)	500 522							
PENV_HVIZ2	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z2/CDC-Z34 ISOLATE)	133 145	405 437						
PENV_HVIZ3	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE 3 ISOLATE)	117 133	135 168						
PENV_HVIZ6	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE 6 ISOLATE)	497 519							
PENV_HVIZ8	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (Z-84 ISOLATE)	503 527							
PENV_HVIZH	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE IZ311 ISOLATE)	123 143	438 457	488 528					
PENV_HV2BE	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE BEN)	3-26	738 753	781 804					
PENV_HV2CA	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE CAM1)	336 377							
PENV_HV2D1	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D194)	3-26	741 766	772 795					
PENV_HV2D1	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D1/17)	9-28							
PENV_HV2N2	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE GHANA-1)	741 766	772 795						
PENV_HV2R0	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NIH-Z)	741 767	777 800						
PENV_HV2S6	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD)	351 376							
PENV_HV2ST	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE SBL/ISY)	743 768	778 804						
PENV_HV2ST	GP160 PRECURSOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST)	745 770							
PENV_ISAV	ENV POLYPROTEIN PRECURSOR	SHEEP PULMONARY ADENOMATOSIS VIRUS	184 119	299 333	336 398	341 364				
PENV_MCFF	ENV POLYPROTEIN PRECURSOR	MINK CELL FOCUS-FORMING MURINE LEUKEMIA VIRUS	600 621							
PENV_MCF3	ENV POLYPROTEIN PRECURSOR	MINK CELL FOCUS-FORMING MURINE LEUKEMIA VIRUS (ISOLATE CI	601 623							
PENV_MLVAV	ENV POLYPROTEIN PRECURSOR	AKV MURINE LEUKEMIA VIRUS	618 641							
PENV_MLVCB	ENV POLYPROTEIN PRECURSOR	CAS BR E MURINE LEUKEMIA VIRUS	615 644							
PENV_MLVFS	ENV POLYPROTEIN PRECURSOR	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE ST)	619 640							
PENV_MLVFF	ENV POLYPROTEIN PRECURSOR	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE FB29)	619 640							
PENV_MLVFM	ENV POLYPROTEIN PRECURSOR	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE FMR)	619 640							
PENV_MLVMO	ENV POLYPROTEIN PRECURSOR	MOMLV MURINE LEUKEMIA VIRUS (MOLONEY MURINE LEUKAEMIA VIRUS)	638 647							
PENV_MLVRD	ENV POLYPROTEIN	ZELSTEN MURINE LEUKEMIA VIRUS	107 118							
PENV_MLVMO	ENV POLYPROTEIN PRECURSOR	MOLONEY MURINE LEUKEMIA VIRUS	639 650							
PENV_MLVRD	ENV POLYPROTEIN PRECURSOR	RADIATION MURINE LEUKEMIA VIRUS	634 645							
PENV_MLVRK	ENV POLYPROTEIN PRECURSOR	RADIATION MURINE LEUKEMIA VIRUS (STRAIN KAPLAN)	624 645							
PENV_MMTVO	ENV POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN BR6)	643 663							
PENV_MMTVG	ENV POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN GR)	641 663							
PENV_MPMV	ENV POLYPROTEIN	SIMIAN MASON-PFIZER VIRUS	213 235							
PENV_MSVFB	ENV POLYPROTEIN	FBJ MURINE OSTEOSARCOMA VIRUS	178 191							
PENV_OMVV3	ENV POLYPROTEIN PRECURSOR	OVINE LENTIVIRUS (STRAIN 1A-ONVV)	658 681							
PENV_RAV1	ENV POLYPROTEIN PRECURSOR	RAUSCHER MINK CELL FOCUS-INDUCING VIRUS	607 624							
PENV_RSVP	ENV POLYPROTEIN	ROUS SARCOMA VIRUS (STRAIN PRAGUE C)	42 69	333 353						
PENV_SFV1	ENV POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 1)	306 331	710 731	864 887	926 951	951 978			
PENV_SFVL	ENV POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 1/STRAIN LK1)	177 198	704 726	787 814	861 884	931 948	954 975		
PENV_SIVAI	GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (AGM155 ISOLATE)	437 458							
PENV_SIVAG	GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (AGM3 ISOLATE)	443 463							
PENV_SIVAI	GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM/CLONE GRI-1)	437 458							
PENV_SIVAT	GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	413 434							
PENV_SIVCB	GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE CPZ/ANT)	61 109							

PCGENE	PIRCLIP	All Viruses (No Bacteriophage)									
FILE NAME	PROTEIN	VIRUS									
PENV_SIVM1	GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (MNE027 ISOLATE)	706-793	801-826	1--	---	---	---	---	---	---
PENV_SIVGK	GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (K6W ISOLATE)	139-154	801-835	---	---	---	---	---	---	---
PENV_SIVAC	GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (K78 ISOLATE)	139-154	784-791	801-814	---	---	---	---	---	---
PENV_SIV34	GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (PTM5M14 ISOLATE)	969-789	806-829	---	---	---	---	---	---	---
PENV_SIVSP	GP160 PRECURSOR	SIMIAN IMMUNODEFICIENCY VIRUS (PBJ14M11 ISOLATE)	131-793	810-833	---	---	---	---	---	---	---
PENV_SMSAV	PISE PROTEIN	SIMIAN SARCOMA VIRUS	41-63	---	---	---	---	---	---	---	---
PENV_SAVI	ENV POLYPROTEIN	SIMIAN RETROVIRUS SRV-1	211-233	---	---	---	---	---	---	---	---
PGAG_AVEV	ERBA ONCOGENE PROTEIN	AVIAN ERYTHROBLASTOSIS VIRUS (STRAIN ES4)	237-249	---	---	---	---	---	---	---	---
PETF1_FOWPI	EARLY TRANSCRIPTION FACTOR	FOWLPOX VIRUS (STRAIN FP-1)	21-41	33-52	---	---	---	---	---	---	---
PETF1_SFVKA	EARLY TRANSCRIPTION FACTOR	SHOPE FIBROMA VIRUS (STRAIN KASZA)	21-41	---	---	---	---	---	---	---	---
PETF1_VACCC	EARLY TRANSCRIPTION FACTOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	21-41	---	---	---	---	---	---	---	---
PETF1_VACCV	EARLY TRANSCRIPTION FACTOR	VACCINIA VIRUS (STRAIN WR)	21-41	101-117	165-187	285-308	538-562	---	---	---	---
PETF1_VACCC	EARLY TRANSCRIPTION FACTOR 82 KD SUBUNIT	VACCINIA VIRUS (STRAIN COPENHAGEN)	50-73	---	---	---	---	---	---	---	---
PETF1_VACCV	EARLY TRANSCRIPTION FACTOR 82 KD SUBUNIT	VACCINIA VIRUS (STRAIN WR)	48-71	101-117	165-187	285-308	538-562	---	---	---	---
PETF2_VABV	EARLY TRANSCRIPTION FACTOR 82 KD SUBUNIT	VARIOLA VIRUS	50-73	101-117	165-187	285-308	538-562	---	---	---	---
PEXON_HSV11	ALKALINE EXONUCLEASE	HERPES SIMPLEX VIRUS (TYPE 1 STRAIN 17)	165-180	---	---	---	---	---	---	---	---
PEXON_HSV2	ALKALINE EXONUCLEASE	HERPES SIMPLEX VIRUS (TYPE 2)	133-150	---	---	---	---	---	---	---	---
PEXON_HSV1B	ALKALINE EXONUCLEASE	HERPES SIMPLEX VIRUS TYPE 1 (STRAIN ADHP)	376-391	---	---	---	---	---	---	---	---
PEXON_PRVN	ALKALINE EXONUCLEASE	PSEUDORABIES VIRUS (STRAIN NIA-3)	96-51	---	---	---	---	---	---	---	---
PEXON_VEVD	ALKALINE EXONUCLEASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	28-44	233-264	---	---	---	---	---	---	---
PFIB1_ADE40	41 4 KD FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 40	116-133	---	---	---	---	---	---	---	---
PFIB1_ADEAI	41 4 KD FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 41	116-133	---	---	---	---	---	---	---	---
PFIB_ADE2I	FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 2	133-150	---	---	---	---	---	---	---	---
PFIB_ADE5I	FIBER PROTEIN	HUMAN ADENOVIRUS TYPE 5	403-415	---	---	---	---	---	---	---	---
PFIB_ADEB1	FIBER PROTEIN	BOVINE ADENOVIRUS TYPE 3 (MASTADENOVIRUS BOSI)	387-393	735-801	---	---	---	---	---	---	---
PFIB_ADEC1	FIBER PROTEIN	CANINE ADENOVIRUS TYPE 1 (STRAIN GLATZO)	380-397	---	---	---	---	---	---	---	---
PFIB_ADEM1	FIBER PROTEIN	MOUSE ADENOVIRUS TYPE 1	191-211	233-253	693-711	748-774	939-959	---	---	---	---
PGAG_AVEV1	GAG POLYPROTEIN	AVIAN ENDOGENOUS VIRUS RV-1	53-78	2-21	---	---	---	---	---	---	---
PGAG_AVEV2	GAG POLYPROTEIN	AVIAN ENDOGENOUS ROUS-ASSOCIATED VIRUS-0	2-21	---	---	---	---	---	---	---	---
PGAG_AVMAC	GAG POLYPROTEIN	AVIAN MYELOCYTOMATOSIS VIRUS MC29	53-78	---	---	---	---	---	---	---	---
PGAG_AVMAD	GAG POLYPROTEIN	AVIAN MYELOCYTOMATOSIS VIRUS 1000	53-78	---	---	---	---	---	---	---	---
PGAG_AVSU	CORE PROTEIN P19	AVIAN SARCOMA VIRUS (STRAIN UR2)	53-78	---	---	---	---	---	---	---	---
PGAG_AVSY	GAG POLYPROTEIN	AVIAN SARCOMA VIRUS (STRAIN Y73)	53-78	---	---	---	---	---	---	---	---
PGAG_BAEVM	GAG POLYPROTEIN	BABOON ENDOGENOUS VIRUS (STRAIN M7)	197-422	---	---	---	---	---	---	---	---
PGAG_BLVAU	GAG POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AUSTRALIAN ISOLATE)	212-238	---	---	---	---	---	---	---	---
PGAG_BLVJ	GAG POLYPROTEIN	BOVINE LEUKEMIA VIRUS (JAPANESE ISOLATE BLV-1)	213-239	---	---	---	---	---	---	---	---
PGAG_CAEVC	GAG POLYPROTEIN	CAPRINE ARTHRITIS ENCEPHALITIS VIRUS (STRAIN CORK)	102-119	---	---	---	---	---	---	---	---
PGAG_FUSV	GAG POLYPROTEIN	FUJINAMI SARCOMA VIRUS	53-78	---	---	---	---	---	---	---	---
PGAG_HTLIA	GAG POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (STRAIN ATK)	77-94	---	---	---	---	---	---	---	---
PGAG_HTLIC	GAG POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (CARIBBEAN ISOLATE)	77-94	---	---	---	---	---	---	---	---
PGAG_HTLIM	GAG POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (ISOLATE NI-3)	77-94	---	---	---	---	---	---	---	---
PGAG_HVIAJ	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (ARV2/SF2 ISOLATE)	61-91	---	---	---	---	---	---	---	---
PGAG_HVIB1	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BH10 ISOLATE)	61-91	---	---	---	---	---	---	---	---
PGAG_HVIB5	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BH5 ISOLATE)	61-91	---	---	---	---	---	---	---	---
PGAG_HVIBR	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (BRU ISOLATE)	61-91	---	---	---	---	---	---	---	---
PGAG_HVIC4	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (CDC-451 ISOLATE)	61-91	---	---	---	---	---	---	---	---
PGAG_HVIEL	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (ELI ISOLATE)	61-91	---	---	---	---	---	---	---	---
PGAG_HVIH2	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (HXB2 ISOLATE)	61-91	---	---	---	---	---	---	---	---
PGAG_HVIJ3	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (JH3 ISOLATE)	61-91	---	---	---	---	---	---	---	---
PGAG_HVIJR	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (JRCSF ISOLATE)	61-91	---	---	---	---	---	---	---	---
PGAG_HVIMA	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (MAL ISOLATE)	281-305	---	---	---	---	---	---	---	---
PGAG_HVIN5	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (NY5 ISOLATE)	61-91	---	---	---	---	---	---	---	---
PGAG_HVINY	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (NEW YORK-5 ISOLATE)	61-91	---	---	---	---	---	---	---	---
PGAG_HVINO	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (NDK ISOLATE)	61-91	152-173	---	---	---	---	---	---	---
PGAG_HVIOY	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (OYI ISOLATE)	61-91	---	---	---	---	---	---	---	---
PGAG_HVIPV	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (PV22 ISOLATE)	61-91	---	---	---	---	---	---	---	---
PGAG_HVIRH	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE I (RF/HAT ISOLATE)	61-91	---	---	---	---	---	---	---	---

PCGENE	PIRCLUSTER	All Viruses (No Bacteriophages)								
ENTRY	ENTRY	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PGAG_HIV1A	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (STRAIN UGANDAN ISO	65-91		1					
PGAG_HIV1W2	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (WMJ2 ISOLATE)	65-91							
PGAG_HIV1Z2	GAG POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE ISOLATE)	65-91							
PGAG_IPNA	RETROVIRUS-RELATED GAG POLYPROTEIN	MOUSE INTRACISTERNAL A-PARTICLE	155-172							
PGAG_MMTVD	GAG POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN BR6)	82-97							
PGAG_MMTVC	GAG POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN C3H)	82-97							
PGAG_MMTVG	GAG POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN GR)	82-97							
PGAG_RSVP	GAG POLYPROTEIN	ROUS SARCOMA VIRUS (STRAIN PRAGUE C)	53-78							
PGAG_SCVLA	MAJOR COAT PROTEIN	SACCHAROMYCES CEREVISIAE VIRUS L-A	618-645							
PGAG_SIVI	GAG POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 1)	89-101							
PGAG_SIVIL	GAG POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 1) STRAIN (LIB)	93-101							
PGAG_SIVAI	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM155 ISOLATE)	189-213							
PGAG_SIVAG	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM1 ISOLATE)	193-217							
PGAG_SIVAT	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	186-211							
PGAG_SIVCZ	GAG POLYPROTEIN	CHIMPANZEE IMMUNODEFICIENCY VIRUS (SIVCPZ)	66-90							
PGAG_SIVGM	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (SIVGM ISOLATE)	66-90							
PGAG_SIVMI	GAG POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (MAC142 ISOLATE)	66-90							
PGAG_SMRVH	GAG POLYPROTEIN	SQUIRREL MONKEY RETROVIRUS (SMRV-H)	216-107							
PGLU_VACCC	POSSIBLE GLUTAREDOXIN	VACCINIA VIRUS (STRAIN COPENHAGEN) AND (STRAIN L-IVP)	11-37		1					
PGLU_VARV	POSSIBLE GLUTAREDOXIN	VARIOLA VIRUS	11-37		1					
PGRAN_OVAS	GRANULIN	AGROTIS SEGETUM GRANULOSIS VIRUS	208-226							
PGRAN_OVTN	GRANULIN	TRICHOPLUSIANI GRANULOSIS VIRUS	204-217							
PGRFA_VACCC	GROWTH FACTOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	104-134							
PGRFA_VACCV	GROWTH FACTOR	VACCINIA VIRUS (STRAIN WR)	104-133							
PGRFA_VARV	GROWTH FACTOR	VARIOLA VIRUS	104-133							
PHEL1_EBV	PROBABLE HELICASE	EPSTEIN-BARR VIRUS (STRAIN B95-8)	188-207	338-361	438-464					
PHEL1_HCMVA	PROBABLE HELICASE	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	197-220	339-360	526-553					
PHEL1_HSV11	PROBABLE HELICASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	189-208	338-346						
PHEL1_HSV2H	PROBABLE HELICASE	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN HG52)	206-209	329-334						
PHEL1_HSV2S	PROBABLE HELICASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	181-204	263-266	294-413					
PHEL1_HSV3A	PROBABLE HELICASE	HERPESVIRUS SAIMIRI (STRAIN 11)	237-250	389-411	458-483					
PHEL1_VZVD	PROBABLE HELICASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	165-189	383-402	561-578	761-786				
PHEMA_CDVO	HEMAGGLUTININ-NEURAMINIDASE	CANINE DISTEMPER VIRUS (STRAIN ONDERSTEPOORT)	36-53	280-323						
PHEMA_CVBF	HEMAGGLUTININ-ESTERASE PRECURSOR	BOVINE CORONAVIRUS (STRAIN F15)	391-415							
PHEMA_CVBLY	HEMAGGLUTININ-ESTERASE PRECURSOR	BOVINE CORONAVIRUS (STRAIN LY-138)	391-415							
PHEMA_CVBM	HEMAGGLUTININ-ESTERASE PRECURSOR	BOVINE CORONAVIRUS (STRAIN MEBUS)	391-415							
PHEMA_CVBQ	HEMAGGLUTININ-ESTERASE PRECURSOR	BOVINE CORONAVIRUS (STRAIN QUEBEC) AND (STRAIN L9)	391-415							
PHEMA_CVHOC	HEMAGGLUTININ-ESTERASE PRECURSOR	HUMAN CORONAVIRUS (STRAIN OC43)	391-415							
PHEMA_CVMJ1	HEMAGGLUTININ-ESTERASE PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN A59)	403-433							
PHEMA_CVNS	HEMAGGLUTININ-ESTERASE PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN S)	403-418							
PHEMA_IAJAC	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN AICHI/2/68)	37-59	322-339						
PHEMA_IABAN	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ANHUI/1/57)	21-43	306-323						
PHEMA_IABUD	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN BUDGERIGAR/HOKKAIDO/1/77)	336-353							
PHEMA_IACKA	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN CHICKEN/ALABAMA/75)	336-353							
PHEMA_IACKO	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN CHICKEN/GERMANY/N/49)	81-101	231-247	316-333					
PHEMA_IACP	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ACICBCKEN/PENNSYLVANIA/1083)	103-119							
PHEMA_IACRQ	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ACICBCKEN/PENNSYLVANIA/1103/83)	103-119							
PHEMA_IACRS	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ACICBCKEN/SCOTLAND/59)	319-336							
PHEMA_IACRV	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ACICBCKEN/VICTORIA/1/85)	320-344	315-333						
PHEMA_IADAI	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/ALBERTA/76/76)	336-353							
PHEMA_IADAJ	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/ALBERTA/76/76)	37-59	322-339						
PHEMA_IADCZ	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/CZECHOSLOVAKIA/56)	336-353							
PHEMA_IADEI	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/ENGLAND/1/56)	266-287	319-336						
PHEMA_IADHI	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/HONKKAIDO/571)	106-123							
PHEMA_IADHJ	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/HONKKAIDO/60)	21-43	306-323						
PHEMA_IADHS	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/HONKKAIDO/960)	21-43	306-323						
PHEMA_IADHX	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN ADUCK/HONKKAIDO/762)	21-43	306-323						

PCGENE FILE NAME	FASTLIP PROTEIN	All Viruses (No Bacteriophage*) VIRUS										
PIRHA1ADH1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOK/AIDO/2/81)	21-43	215-337							
PIRHA1ADH8	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOK/AIDO/4/81)	21-43	106-333							
PIRHA1ADH7	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/HOK/AIDO/10/81)	21-43	106-333							
PIRHA1ADH2	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/ENGLAND/1/56)	21-59	122-339							
PIRHA1ADH3	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERTA/60/76)	21-59	122-339							
PIRHA1ADH4	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/ANHUI/1/78)	21-59	122-339							
PIRHA1ADH5	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/UKRAINE/1/63)	21-43	106-333							
PIRHA1AEN8	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/ENGLAND/878/69)	21-59	122-339							
PIRHA1AEN1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/ENGLAND/21/77)	21-59	122-339							
PIRHA1AFW1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/AUSTOCK/34)	336-346	115-332							
PIRHA1AGRE	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/GREY TEAL/AUSTRALIA/2/79)	320-337								
PIRHA1AGO1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/GULL/MARYLAND/704/77)	320-337								
PIRHA1AGUA	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/GULL/ASTRAKHAN/1/77/84)	318-336								
PIRHA1AHK1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/ALGIERS/72)	321-338								
PIRHA1AHK2	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/CAMBRIDGE/1/63)	330-346	115-332							
PIRHA1AHK3	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/CAMBRIDGE/1/77)	330-346	115-332							
PIRHA1AHK7	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/DETROIT/1/64)	330-346	115-332							
PIRHA1AHK8	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/DETROIT/1/64)	330-346	115-332							
PIRHA1AHK6	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/FONTAINEBLEAU/76)	336-352	121-338							
PIRHA1AHK4	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/KENTUCKY/1/86)	321-338	121-338							
PIRHA1AHK5	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/KENTUCKY/1/87)	336-352	121-338							
PIRHA1AHK1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/KENTUCKY/1/86)	321-338	121-338							
PIRHA1AHK2	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/KINGTON/1/66)	330-346	115-332							
PIRHA1AHK3	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/LONDON/1416/73)	330-346	115-332							
PIRHA1AHK9	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/MIAMI/1/63)	330-346	115-332							
PIRHA1AHK1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/NEW MARKET/76)	336-352	121-338							
PIRHA1AHK2	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/NEW MARKET/76)	336-352	121-338							
PIRHA1AHK7	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/PRAGUE/1/56)	315-331								
PIRHA1AHK5	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/ROMANIA/1/60)	336-352	121-338							
PIRHA1AHK6	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/SANTIAGO/1/65)	336-352	121-338							
PIRHA1AHK4	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/SAO PAULO/1/76)	330-346	115-332							
PIRHA1AHW	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/SWITZERLAND/1/72)	330-346	115-332							
PIRHA1AHT8	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/TENNESSEE/5/86)	336-352	121-338							
PIRHA1AHT6	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/TOKYO/71)	336-352	121-338							
PIRHA1AHU6	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/EQUINE/URUGUAY/1/63)	336-352	121-338							
PIRHA1AJA1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/JAPAN/305/57)	317-334								
PIRHA1AMA4	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/MALLARD/ASTRAKHAN/244/82)	197-223	319-336							
PIRHA1AMA8	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/MALLARD/ASTRAKHAN/263/82)	197-223	324-341							
PIRHA1AMA6	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/MALLARD/NEW YORK/6750/78)	315-331	321-338							
PIRHA1AMI1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/MEMPHIS/1/71)	315-331	321-338							
PIRHA1AME1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/MEMPHIS/102/72)	315-331	321-338							
PIRHA1AME2	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/MEMPHIS/3/72)	315-331	321-338							
PIRHA1AME3	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/MEMPHIS/6/86)	336-352	121-338							
PIRHA1AMN	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/MINK/SWEDEN/84)	81-101	231-247	116-133						
PIRHA1ANT4	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/ANTWERP/60/84)	315-331	321-338							
PIRHA1AP1L	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/PILOT WHALE/ALASKA/2/84)	336-352	121-338							
PIRHA1AQU1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/QUAIL/70)	21-43								
PIRHA1ARU0	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/RUDDY TURNSTONE/NEW JERSEY/87)	336-352	106-333							
PIRHA1ASE1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/SEAL/MASSACHUSETTS/1/80)	336-352								
PIRHA1ASH2	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/SHEARWATER/AUSTRALIA/72)	234-250	321-338							
PIRHA1AST4	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/STARLING/VICTORIA/31/65)	336-346	115-332							
PIRHA1ATK1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/TURKEY/MINNESOTA/1/80)	321-55	326-337							
PIRHA1ATR1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/TURKEY/ONTARIO/7732/66)	211-249								
PIRHA1ATR3	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/TURKEY/ONTARIO/7733/66)	211-249								
PIRHA1ATX1W	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/TURKEY/WISCONSIN/1/66)	229-245								
PIRHA1AVI1	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/DUCK/MD/10/72)	17-59	122-339	100-117						
PIRHA1AVI7	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/VICTORIA/3/75)	18-60	123-340							
PIRHA1AX01	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN X-31)	17-59								
PIRHA1AZ20	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/SWINE/ICO/ORATORIO/77)	17-59	122-339							

PCGENE	PIRCTLZIP	All Viruses (No Bacteriophage)								
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PIEMA_IAZH3	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/SWINE/HONG KONG/81/78)	21-43	306-323							
PIEMA_IAZH3	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/SWINE/HONG KONG/1226/82)	21-43	306-323							
PIEMA_IAZUK	HEMAGGLUTININ PRECURSOR	INFLUENZA A VIRUS (STRAIN A/SWINE/UKRE1/1/84)	37-59	322-339							
PIEMA_INBAA	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/86)	115-131	295-310							
PIEMA_INBBE	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/BEIJING/1/87)	133-139	301-316							
PIEMA_INBBO	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/BONN/43)	116-132	301-308							
PIEMA_INBEN	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/ENGLAND/222/82)	123-139	301-316							
PIEMA_INBFU	HEMAGGLUTININ	INFLUENZA B VIRUS (STRAIN B/FUKUOKA/80/81)	108-124	286-301							
PIEMA_INBGL	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/GL/54)	119-135	296-311							
PIEMA_INBHK	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/HONG KONG/8/73)	116-132	293-308							
PIEMA_INBIB	HEMAGGLUTININ	INFLUENZA B VIRUS (STRAIN B/IBARAKI/2/85)	108-124	288-303							
PIEMA_INBID	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/ID/86)	130-146	309-324							
PIEMA_INBLE	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/LEE/40)	123-139	302-317							
PIEMA_INBMD	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/MARYLAND/59)	123-139	293-307							
PIEMA_INBME	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/MEMPHIS/6/86)	116-132	296-311							
PIEMA_INBNA	HEMAGGLUTININ	INFLUENZA B VIRUS (STRAIN B/NAGASAKI/1/87)	108-124	288-303							
PIEMA_INBOR	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/OREGON/5/80)	123-139	301-316							
PIEMA_INBSI	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/SINGAPORE/222/79)	123-139	301-316							
PIEMA_INBSJ	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/SINGAPORE/64)	119-135	298-313							
PIEMA_INBUS	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/USSR/100/83)	116-132	294-309							
PIEMA_INBVI	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/VICTORIA/3/85)	116-132	296-311							
PIEMA_INBVR	HEMAGGLUTININ PRECURSOR	INFLUENZA B VIRUS (STRAIN B/VICTORIA/2/87)	123-139	303-318							
PIEMA_INBYB	HEMAGGLUTININ	INFLUENZA B VIRUS (STRAIN B/YAMAGATA/16/88)	108-124	286-301							
PIEMA_INCCA	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/CALIFORNIA/78)	442-466								
PIEMA_INCEN	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/ENGLAND/892/83)	430-454								
PIEMA_INCGL	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/GREAT LAKES/1167/54)	430-454								
PIEMA_INCHY	HEMAGGLUTININ	INFLUENZA C VIRUS (STRAIN C/HYOGO/1/83)	439-451								
PIEMA_INCJH	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/JOHANNESBURG/1/66)	443-467								
PIEMA_INCKY	HEMAGGLUTININ	INFLUENZA C VIRUS (STRAIN C/KYOTO/41/82)	429-453								
PIEMA_INCMI	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/MISSISSIPPI/80)	429-453								
PIEMA_INCNA	HEMAGGLUTININ	INFLUENZA C VIRUS (STRAIN C/NARA/82)	429-453								
PIEMA_INCP1	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/PIG/BEIJING/10/81)	430-454								
PIEMA_INCP2	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/PIG/BEIJING/115/81)	430-454								
PIEMA_INCP3	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/PIG/BEIJING/439/82)	430-454								
PIEMA_INCTA	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/TAYLOR/1233/47)	430-454								
PIEMA_INCYA	HEMAGGLUTININ PRECURSOR	INFLUENZA C VIRUS (STRAIN C/YAMAGATA/10/81)	430-454								
PIEMA_MUMP1	HEMAGGLUTININ-NEURAMINIDASE	MUMPS VIRUS (STRAIN SBL-1)	101-125	133-148	225-246	367-384	397-417				
PIEMA_MUMPM	HEMAGGLUTININ-NEURAMINIDASE	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	101-125	133-148	225-246	367-384	397-417				
PIEMA_MUMPR	HEMAGGLUTININ-NEURAMINIDASE	MUMPS VIRUS (STRAIN RW)	101-125	133-148	225-246	367-384	397-417				
PIEMA_MUMPS	HEMAGGLUTININ-NEURAMINIDASE	MUMPS VIRUS (STRAIN SBL)	101-125	133-148							
PIEMA_NDVA	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA-VICTORIA/32)	93-110								
PIEMA_NDVB	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C/45)	93-110								
PIEMA_NDVD	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN D26/76)	93-110								
PIEMA_NDVIH	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN BI-1/ITCHNER/47)	93-110								
PIEMA_NDVI	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN ITALIEN/45)	93-110								
PIEMA_NDVM	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN MIYADERA/51)	93-110								
PIEMA_NDVQ	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN QUEENSLAND/66)	93-110								
PIEMA_NDVTG	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN TEXAS G B/48)	93-110								
PIEMA_NDVU	HEMAGGLUTININ-NEURAMINIDASE	NEWCASTLE DISEASE VIRUS (STRAIN ULSTER/67)	93-110								
PIEMA_PHODV	HEMAGGLUTININ-NEURAMINIDASE	PHOCINE DISTEMPER VIRUS	36-58	213-234	493-513						
PIEMA_P1HW	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN WASHINGTON/1957)	28-53	323-347	345-360	486-503					
PIEMA_P1HI	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 1 VIRUS (PIV-2)	13-40	65-88	118-136						
PIEMA_P1HT	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN TOSHIBA)	13-40	65-88	118-136						
PIEMA_P1B	HEMAGGLUTININ-NEURAMINIDASE	BOVINE PARAINFLUENZA 1 VIRUS	111-128	272-299	324-340						
PIEMA_P1H4	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN M11 47885)	111-128	272-299	324-340						
PIEMA_P1HA	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN AUS/130854/74)	111-128	272-299	324-340						
PIEMA_P1H1T	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN TEX/545/80)	111-128	272-299	324-340						

PCGENE	FUNCTION	All Viruses (No Bacteriophage)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILE NAME	PROTEIN	VIRUS									
PHEMA_PIHJU	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN TEXAS/81)	111-128	111-299	111-299						
PHEMA_PIHJV	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN TEXAS/76)	111-128	111-299	124-140						
PHEMA_PIHJW	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN WASH/60)	111-128	111-299	124-140						
PHEMA_PIHJX	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN WASH/51/D)	111-128	111-299	124-140						
PHEMA_PIHJA	HEMAGGLUTININ-NEURAMINIDASE	HUMAN PARAINFLUENZA 3A VIRUS (STRAIN TOSHIBA)	36-67								
PHEMA_BNDK	HEMAGGLUTININ-NEURAMINIDASE	BINDERPEST VIRUS (STRAIN KANETE O)	108-383								
PHEMA_BNDL	HEMAGGLUTININ-NEURAMINIDASE	RINDERPEST VIRUS (STRAIN L)	4-16								
PHEMA_SENDS	HEMAGGLUTININ-NEURAMINIDASE	SENDAI VIRUS (STRAIN 7 FIRST MUTANT)	122-142								
PHEMA_SENDK	HEMAGGLUTININ-NEURAMINIDASE	SENDAI VIRUS (STRAIN HARRIS)	122-142								
PHEMA_SENDT	HEMAGGLUTININ-NEURAMINIDASE	SENDAI VIRUS (STRAIN HVJ)	122-142								
PHEMA_SENDZ	HEMAGGLUTININ-NEURAMINIDASE	SENDAI VIRUS (STRAIN Z)	122-142								
PHEMA_SVSI	HEMAGGLUTININ-NEURAMINIDASE	SIMIAN VIRUS 41	55-75	107-122							
PHEMA_SVS	HEMAGGLUTININ-NEURAMINIDASE	SIMIAN VIRUS 5 (STRAIN WR)	7-28	84-101	139-406						
PHEMA_SVSN	HEMAGGLUTININ-NEURAMINIDASE	SIMIAN VIRUS 5 (ISOLATE CANINE/CPI)	7-28	84-101	139-406						
PHEMA_SVSCP	HEMAGGLUTININ-NEURAMINIDASE	SIMIAN VIRUS 5 (ISOLATE CANINE/CPI)	7-28	84-101	139-406						
PHEMA_SVSN	HEMAGGLUTININ-NEURAMINIDASE		7-28	84-101	139-406						
PHEMA_VACCC	HEMAGGLUTININ PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	133-192	115-140							
PHEXI_ADE01	HEXON-ASSOCIATED PROTEIN PRECURSOR	ADENOVIRUS TYPE 1	37-46								
PHEMA_VACCT	HEMAGGLUTININ PRECURSOR	VACCINIA VIRUS (STRAIN WIL-2)	133-192	118-145							
PHEMA_VACCV	HEMAGGLUTININ PRECURSOR	VACCINIA VIRUS (STRAIN TIAN TAN)	133-192	118-145							
PHEMA_VAV	HEMAGGLUTININ PRECURSOR	VACCINIA VIRUS (STRAIN WR)	133-192	118-145							
PHEMA_VAJV	HEMAGGLUTININ PRECURSOR	VAJOLA VIRUS	115-194								
PHEXI_ADE01	HEXON-ASSOCIATED PROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 3	18-61	115-140							
PHEXI_ADE01	HEXON-ASSOCIATED PROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 3	37-46								
PHEXI_ADE01	HEXON-ASSOCIATED PROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 3	18-61	118-145							
PHEXI_ADE41	HEXON-ASSOCIATED PROTEIN PRECURSOR	HUMAN ADENOVIRUS TYPE 41	18-61	118-145							
PHEXI_ADE41	HEXON-ASSOCIATED PROTEIN PRECURSOR	MOUSE ADENOVIRUS TYPE 1	36-53								
PHEXI_ADE07	HEXON-ASSOCIATED PROTEIN	HUMAN ADENOVIRUS TYPE 7, AND 3	97-117								
PHEXI_ADE2I	HEXON-ASSOCIATED PROTEIN	CANINE ADENOVIRUS TYPE 1	53-77								
PHEXI_ADE2V	HEXON-ASSOCIATED PROTEIN	TUPAIA ADENOVIRUS	60-82								
PIB10_COWPX	HOST RANGE PROTEIN	COWPOX VIRUS	517-533	538-581	609-636						
PI177_ASF01	LATE PROTEIN I177L	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	68-81								
P119_ASF01	LATE PROTEIN I19L	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	169-190								
P126_ASF01	LATE PROTEIN I26R	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	60-77								
P129_ASF01	LATE PROTEIN I29L PRECURSOR	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	359-380								
P170_ASF01	EARLY PROTEIN I70R	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	2-20								
PIB10_BOCMV	INCLUSION BODY MATRIX PROTEIN	SOYBEAN CILYNDROTIC MOTTLE VIRUS	93-119								
PIC11_EBV	PROBABLE PROCESSING AND TRANSPORT PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	100-133	131-151	159-211						
PIC11_HCMVA	PROBABLE PROCESSING AND TRANSPORT PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	158-176	200-211							
PIC11_HSV11	PROCESSING AND TRANSPORT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	8-39	43-61	731-768						
PIC11_HSV1A	PROCESSING AND TRANSPORT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN ANGELOTTI)	8-39	43-61	731-768						
PIC11_HSV1F	PROCESSING AND TRANSPORT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN F)	8-39	43-61	731-768						
PIC11_HSV2I	PROBABLE PROCESSING AND TRANSPORT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN HAY)	12-37	110-131							
PIC11_HSV2B	PROBABLE PROCESSING AND TRANSPORT PROTEIN	BOVINE HERPESVIRUS TYPE 2 (STRAIN BAY)	12-37	110-131							
PIC11_HSV2E	PROBABLE PROCESSING AND TRANSPORT PROTEIN	EQUINE HERPESVIRUS TYPE 1	37-56	116-144	137-155						
PIC11_HSV2A	PROBABLE PROCESSING AND TRANSPORT PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	37-49	51-70	647-675						
PIC11_HCMVS	PROBABLE PROCESSING AND TRANSPORT PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN SADDI)	126-144	202-239	386-411						
PIC11_PRVB	PROBABLE PROCESSING AND TRANSPORT PROTEIN	PSEUDORABIES VIRUS (STRAIN INDIANA-FUNKHAUSER / BECKER)	185-207	698-718							
PIC11_VZVD	PROBABLE PROCESSING AND TRANSPORT PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	69-88	619-639	735-744						
PIC9_HSV11	IMMEDIATE-EARLY PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	668-686								
PIC9_HSV2H	VMW110 PROTEIN	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN HG52)	713-729								
PIC9_PRVB	EARLY PROTEIN 9	PSEUDORABIES VIRUS (STRAIN INDIANA-FUNKHAUSER / BECKER)	82-102								
PIC9_VZVD	INFECTED CELL PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN F)	111-133								
PIC4_HSV11	TRANS-ACTING TRANSCRIPTIONAL PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN F)	81-98	621-637							
PIC4_HSV2B	TRANS-ACTING TRANSCRIPTIONAL PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	708-725	736-759							
PIC4_HSV2E	TRANS-ACTING TRANSACTIVATOR PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A)	708-725	736-759							
PIC4_HSV2G	TRANS-ACTING TRANSACTIVATOR PROTEIN	MAREK'S DISEASE HERPESVIRUS (STRAIN GA)	698-715	726-749							
PIC4_VZVD	TRANS-ACTING TRANSCRIPTIONAL PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	547-563	583-611	1701-1718						

PCGENE	P1CTZIP	All Viruses (No Bacteriophage)									
FILENAME	PROTEIN	VIRUS	ANEAJ	ANEAJ	ANEAJ	ANEAJ	ANEAJ	ANEAJ	ANEAJ	ANEAJ	ANEAJ
P1E10_PRVIF	IMMEDIATE EARLY PROTEIN IE180	PSEUDORABIES VIRUS (STRAIN INDIANA-YUKITAUSUKA / BECKER)	731-746								
P1E10_PRVKA	IMMEDIATE EARLY PROTEIN IE180	PSEUDORABIES VIRUS (STRAIN KAPLAN)	730-737								
P1E63_HCMVA	TRANSCRIPTIONAL REGULATION IE63 PROTEIN (AGT	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	186-204	184-181							
P1E63_HSV11	TRANSCRIPTIONAL REGULATION IE63	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	178-194								
P1E63_HSV2H	TRANSCRIPTIONAL REGULATION IE63	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN HG52)	178-194								
P1E63_HSVEB	TRANSCRIPTIONAL REGULATION IE63	EQUINE HERPESVIRUS (TYPE 2 / STRAIN AUSK)	178-194	180-446							
P1ED_HSV5A	32 KD IMMEDIATE-EARLY PHOSPHOPROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	900-136								
P1EA_HSV11	IMMEDIATE EARLY PROTEIN IE68	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	169-205								
P1EA8_HSVEB	IMMEDIATE EARLY PROTEIN IE68	EQUINE HERPESVIRUS TYPE 4	81-104								
P1EA1_HSVEB	IMMEDIATE EARLY PROTEIN	EQUINE HERPESVIRUS TYPE 1	93-116								
P1EA1_PRVKA	IMMEDIATE EARLY PROTEIN	PSEUDORABIES VIRUS (STRAIN KAPLAN)	85-108								
P1E8_VZVD	GENE 62/63 PROTEIN	VARICELLA ZOSTER VIRUS (STRAIN DUMAS)	57-78								
P1A10_HCMVA	HYPOTHETICAL PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	111-127								
P1E8B_AVIEB	ERBB TYROSINE KINASE TRANSFORMING PROTEIN	AVIAN ERYTHROBLASTOSIS VIRUS	64-86	297-314							
P1E8_TSVGA	TYROSINE PROTEIN KINASE TRANSFORMING PROT	FELINE SARCOMA VIRUS (STRAIN GARDNER-ARNSTEIN)	75-88								
P1E8_TSVST	TYROSINE PROTEIN KINASE TRANSFORMING PROT	FELINE SARCOMA VIRUS (STRAIN SNYDER-THEILEN)	2-23								
P1E8A_TSVGA	TYROSINE PROTEIN KINASE TRANSFORMING PROT	FELINE SARCOMA VIRUS (STRAIN GARDNER-RASHEED)	269-288								
P1E8A5_TSVMD	145 TYROSINE KINASE TRANSFORMING PROTEIN	FELINE SARCOMA VIRUS (STRAIN MCDONOUGH)	141-159	243-263	414-430	140-160	141-161	136-177			
P1E8_AVISP	TYROSINE PROTEIN KINASE TRANSFORMING PROT	AVIAN SARCOMA VIRUS (STRAIN PRCII)	207-224								
P1E8_FUSV	TYROSINE PROTEIN KINASE TRANSFORMING PROT	FUJINAMI SARCOMA VIRUS	199-215	200-220	417-434						
P1E8_ASFB7	THYMIDINE KINASE	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	19-41								
P1E8_EBV	THYMIDINE KINASE	EPSTEIN-BARR VIRUS (STRAIN B95-8)	407-418	418-446							
P1E8_FLDV	THYMIDINE KINASE	FISH LYMPHOCYSTIS DISEASE VIRUS	96-111	253-313							
P1E8_HSV11	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	273-289								
P1E8_HSVIC	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN CL101)	273-289								
P1E8_HSVIE	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN HFEM)	273-289								
P1E8_HSVIK	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	273-289								
P1E8_HSVIS	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN SC16)	273-289								
P1E8_HSV21	THYMIDINE KINASE	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN 333)	228-310	313-348							
P1E8_HSV86	THYMIDINE KINASE	BOVINE HERPESVIRUS TYPE 1 (STRAIN 6660)	193-219	280-304							
P1E8_HSV8H	THYMIDINE KINASE	BOVINE HERPESVIRUS TYPE 2 (STRAIN HIM-1)	180-202								
P1E8_HSV8M	THYMIDINE KINASE	BOVINE HERPESVIRUS TYPE 2 (STRAIN WCII)	181-199	609-633							
P1E8_HSV8Q	THYMIDINE KINASE	BOVINE HERPESVIRUS TYPE 1 (STRAIN Q1932)	184-226	282-306							
P1E8_HSVE4	THYMIDINE KINASE	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	174-193	261-284							
P1E8_HSVEB	THYMIDINE KINASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) AND (ISOLATE HV535A)	18-33	174-193	374-398						
P1E8_HSVF	THYMIDINE KINASE	FELINE HERPESVIRUS (FELID HERPESVIRUS 1)	111-189								
P1E8_HSVI	THYMIDINE KINASE	ICTALURID HERPESVIRUS 1	14-33								
P1E8_HSVSA	THYMIDINE KINASE	MARMOSET HERPESVIRUS	185-211								
P1E8_HSVSA	THYMIDINE KINASE	HERPESVIRUS SAIMIRI (STRAIN 11)	208-233								
P1E8_OLVT	THYMIDINE KINASE	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN TIOKNE V882)	183-201	260-314							
P1E8_VZV4	THYMIDINE KINASE	VARICELLA ZOSTER VIRUS (ACYCLOVIR-RESISTANT STRAIN 40A2)	197-216								
P1E8_VZV7	THYMIDINE KINASE	VARICELLA ZOSTER VIRUS (ACYCLOVIR-RESISTANT STRAIN 7-1-1)	197-216								
P1E8_VZVD	THYMIDINE KINASE	VARICELLA ZOSTER VIRUS (STRAIN DUMAS)	197-216								
P1E8_VZVG	THYMIDINE KINASE	VARICELLA ZOSTER VIRUS (ACYCLOVIR-RESISTANT STRAIN GK)	197-216								
P1E8_VZVW	THYMIDINE KINASE	VARICELLA ZOSTER VIRUS (VZV)	197-216								
P1E8T_FSVGL	KIT TYROSINE KINASE TRANSFORMING PROTEIN	FELINE SARCOMA VIRUS (STRAIN HARDY-ZUCKERMAN 4)	192-214	276-297							
P1E13_HSV11	GENE 13 PROTEIN KINASE	ICTALURID HERPESVIRUS 1	131-147	158-174							
P1E18_HSV11	GENE 18 PROTEIN KINASE	ICTALURID HERPESVIRUS 1	197-217	286-311							
P1E1_HSV11	SERINE/THREONINE PROTEIN KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	180-196	158-173							
P1E1_HSV2	SERINE/THREONINE PROTEIN KINASE	HERPES SIMPLEX VIRUS (TYPE 2)	216-236	158-177							
P1E1_HSVEB	SERINE/THREONINE PROTEIN KINASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	200-307								
P1E1_HSVEK	SERINE/THREONINE PROTEIN KINASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A)	186-202								
P1E1_VZVD	SERINE/THREONINE PROTEIN KINASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	139-167								
P1E2_EBV	PROBABLE SERINE/THREONINE PROTEIN KINASE	EPSTEIN-BARR VIRUS (STRAIN B95-8)	196-211	113-138							
P1E3_HSV11	PROBABLE SERINE/THREONINE PROTEIN KINASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	147-167								
P1E3_HSVEB	PROBABLE SERINE/THREONINE PROTEIN KINASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	117-139	441-462							
P1E3_PRVNI	SERINE/THREONINE PROTEIN KINASE 2	PSEUDORABIES VIRUS (STRAIN NIA-3)	184-185	272-305							

PEGENE	FUNCTION	AN Viruses (No Bacteriophages)									
FILE NAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PKRJ_VZVD	PROBABLE SERINE/THREONINE PROTEIN KINASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	116-131	228-247	314-333	1					
PERI3_HSV1I	GENE 13 PROTEIN KINASE	HERPESVIRUS 1	161-186								
PERI4_HSV1I	GENE 14 PROTEIN KINASE	HERPESVIRUS 1	159-186	248-275							
PERI1_VACCC	10 KD PROTEIN KINASE HOMOLOG	VACCINIA VIRUS (STRAIN COPENHAGEN)	199-214								
PERI1_VACCV	10 KD PROTEIN KINASE HOMOLOG	VACCINIA VIRUS (STRAIN WR)	199-214								
PERI1_VARV	10 KD PROTEIN KINASE HOMOLOG	VARIOLA VIRUS	199-214								
PERJ1_SFVEA	POSSIBLE PROTEIN KINASE C26	SHOPE FIBROMA VIRUS (STRAIN KASZA)	83-98								
PERJ1_VACCC	POSSIBLE PROTEIN KINASE F10	VACCINIA VIRUS (STRAIN COPENHAGEN)	85-100								
PERJ1_VACCP	POSSIBLE PROTEIN KINASE F10	VACCINIA VIRUS (STRAIN L-IVP)	52-67								
PERJ1_VARV	POSSIBLE PROTEIN KINASE F10	VARIOLA VIRUS	85-100								
PERO5_AVSU	ROS TYR KINASE TRANSFORMING PROTEIN	AVIAN SARCOMA VIRUS (STRAIN URA)	6-26	203-223	241-261	1					
PERYK_AVBU	TYR PROTEIN KINASE TRANSFORMING PROTEIN R	AVIAN RETICULOENDOTHELIOSIS VIRUS (STRAIN RPL10)	154-172	211-241							
PERZA_AVBT	TYR PROTEIN KINASE TRANSFORMING PROTEIN SR	AVIAN ERYTHROBLASTOSIS VIRUS (STRAIN S13)	158-177								
PERC_AVSR	TYR PROTEIN KINASE TRANSFORMING PROTEIN SR	AVIAN SARCOMA VIRUS (STRAIN PRAGUE)	161-177								
PERC_AVSR	TYR PROTEIN KINASE TRANSFORMING PROTEIN SR	AVIAN SARCOMA VIRUS (STRAIN PRAGUE A)	161-177								
PERC_AVSR	TYR PROTEIN KINASE TRANSFORMING PROTEIN SR	AVIAN SARCOMA VIRUS (STRAIN PRAGUE B)	161-177								
PERC_AVSR	TYR PROTEIN KINASE TRANSFORMING PROTEIN SR	AVIAN SARCOMA VIRUS (STRAIN PRAGUE C)	161-177								
PERC_AVSR	TYR PROTEIN KINASE TRANSFORMING PROTEIN SR	AVIAN SARCOMA VIRUS (STRAIN PRAGUE)	158-174								
PERC_RSVSR	TYR PROTEIN KINASE TRANSFORMING PROTEIN SR	ROUS SARCOMA VIRUS (STRAIN SCHMIDT-RUPPIN)	161-177								
PERY5_AVSBY	TYR PROTEIN KINASE TRANSFORMING PROTEIN Y	AVIAN SARCOMA VIRUS (STRAIN Y73)	161-177								
PLI00_ADE01	LATE 100 KD PROTEIN	HUMAN ADENOVIRUS TYPE 1	489-511								
PLI00_ADE05	LATE 100 KD PROTEIN	HUMAN ADENOVIRUS TYPE 5	489-511								
PLI00_ADE41	LATE 100 KD PROTEIN	HUMAN ADENOVIRUS TYPE 41	458-480								
PLI3_ADE02	LATE L1 13 KD PROTEIN	HUMAN ADENOVIRUS TYPE 2	311-329								
PLI3_ADE05	LATE L1 13 KD PROTEIN	HUMAN ADENOVIRUS TYPE 5	311-329								
PLEC_TOWPM	HEPATIC LECTIN HOMOLOG	TOWNLOW VIRUS (ISOLATE HP AMBLYOMMA)	2-26								
PLI01_EBVB	LATENT MEMBRANE PROTEIN 1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	18-43	79-100							
PLI01_EBVC	LATENT MEMBRANE PROTEIN 1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	18-43	79-100							
PLI01_EBVA	LATENT MEMBRANE PROTEIN 1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	18-43	79-100							
PLI01_EBV	GENE TERMINAL PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	181-196	264-316	283-338	345-360	780-810				
PMCE1_SFVSA	RNA CAPPING ENZYME, LARGE SUBUNIT	SHOPE FIBROMA VIRUS (STRAIN KASZA)	344-360	556-578	679-699						
PMCE1_VACCC	RNA CAPPING ENZYME, LARGE SUBUNIT	VACCINIA VIRUS (STRAIN COPENHAGEN)	81-102	265-283	289-313	681-707					
PMCE1_VACCV	RNA CAPPING ENZYME, LARGE SUBUNIT	VACCINIA VIRUS (STRAIN WR)	81-102	265-283	289-313	681-707					
PMCE1_VARV	RNA CAPPING ENZYME	VARIOLA VIRUS	81-102	265-283	289-313	681-707					
PMCE_AIBT1	RNA CAPPING ENZYME	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	211-243								
PMCE_REOVD	RNA CAPPING ENZYME	REOVIRUS (TYPE 3) (STRAIN DEARING)	156-184	265-283	344-361						
PMOV_CGMVS	MOVEMENT PROTEIN	CUCUMBER GREEN MOTTLE MOSAIC VIRUS (WATERMELON STRAIN	137-172								
PMOV_CGMVW	MOVEMENT PROTEIN	CUCUMBER GREEN MOTTLE MOSAIC VIRUS (WAITE ROTFLON STRAIN	137-172								
PMOV_ODAV	MOVEMENT PROTEIN	ODONTOGLOSSUM RINGSPOT VIRUS	49-74	176-201							
PMOV_PMWS	MOVEMENT PROTEIN	PEPPER MILD MOTTLE VIRUS (STRAIN SPAIN)	35-50	186-201							
PMOV_TMGMV	MOVEMENT PROTEIN	TOBACCO MILD GREEN MOSAIC VIRUS (THV STRAIN U2)	186-201								
PMOV_TMVCO	MOVEMENT PROTEIN	TOBACCO MOSAIC VIRUS (STRAIN COMPE A)	86-107	156-177							
PMTC1_CHVNI	MODIFICATION METHYLASE CVSBI	CHLORELLA VIRUS NC-1A	139-156								
PMTC_CHVNI	MODIFICATION METHYLASE CVSAII	PARAMECIUM BURSARIA CHLORELLA VIRUS 1 (C	23-44								
PMTC_CHVNI	MODIFICATION METHYLASE CVSBIII	CHLORELLA VIRUS NC-1A	177-192	265-286							
PMTBE_AVLE	PI3'-PHOSPHOTRANSFERASE TRANSFORMING PROTEIN E	AVIAN LEUKEMIA VIRUS E26	104-124								
PMTB_AVBM	MYB TRANSFORMING PROTEIN	AVIAN MYELOMATOSIS VIRUS	218-238	706-726							
PNCA2_AINOV	NUCLEOCAPSID PROTEIN	AINO VIRUS	159-181								
PNCA2_BUNLC	NUCLEOCAPSID PROTEIN	BUNYAVIRUS LA CROSSE	84-99								
PNCA2_BUNSH	NUCLEOCAPSID PROTEIN	BUNYAVIRUS SNOWSHOE HARE	84-99								
PNCA2_CDVD	NUCLEOCAPSID PROTEIN	CANINE DISTEMPER VIRUS (STRAIN ONDERSTEPOORT)	11-30								
PNCA2_FIPV	NUCLEOCAPSID PROTEIN	FELINE INFECTIOUS PERITONITIS VIRUS (STRAIN 79-1146)	53-74								
PNCA2_HUNTV	NUCLEOCAPSID PROTEIN	HANTAAN VIRUS (STRAIN 76-118)	317-342								
PNCA2_KUTVI	NUCLEOCAPSID PROTEIN	KAZABA VIRUS (ISOLATE ICH0)	418-446								
PNCA2_RINV	NUCLEOCAPSID PROTEIN	INFECTIOUS HEMATOPOIETIC NECROSIS VIRUS (STRAIN ROUND BUTT	110-133	219-241							

PCGENE	PIRCTLZIP	All Viruses (No Bacteriophage)									
FILE NAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PNCAP_IMSV	NUCLEOCAPSID PROTEIN	IMPATIENS NECROTIC SPOT VIRUS	155-179								
PNCAP_MEASE	NUCLEOCAPSID PROTEIN	MEASLES VIRUS (STRAIN EDMONSTON)	40-59								
PNCAP_MEASH	NUCLEOCAPSID PROTEIN	MEASLES VIRUS (STRAIN HALLE)	40-59								
PNCAP_MEASY	NUCLEOCAPSID PROTEIN	MEASLES VIRUS (STRAIN YAMAGATA-1)	40-59								
PNCAP_MUMPI	NUCLEOCAPSID PROTEIN	MUMPS VIRUS (STRAIN SBL-1)	156-178								
PNCAP_MUMPM	NUCLEOCAPSID PROTEIN	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	156-178								
PNCAP_PHV	NUCLEOCAPSID PROTEIN	PROSPECT HILL VIRUS	36-58	218-236	326-277	321-346					
PNCAP_PI1HC	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C39)	42-58	86-102							
PNCAP_PI1HW	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN WASHINGTON/1957)	42-58	86-102							
PNCAP_PI1B	NUCLEOCAPSID PROTEIN	BOVINE PARAINFLUENZA 1 VIRUS	163-184								
PNCAP_PI1H4	NUCLEOCAPSID PROTEIN	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	161-184								
PNCAP_PUUMBI	NUCLEOCAPSID PROTEIN	PUUMALA VIRUS (STRAIN HALLNAS B1)	36-58	321-346							
PNCAP_PUUMS	NUCLEOCAPSID PROTEIN	PUUMALA VIRUS (STRAIN SOTKAMO)	36-58	218-236	321-346						
PNCAP_RABVA	NUCLEOCAPSID PROTEIN	RABIES VIRUS (STRAIN AVO1)	299-322								
PNCAP_RABVP	NUCLEOCAPSID PROTEIN	RABIES VIRUS (STRAIN PV)	299-322								
PNCAP_RABVS	NUCLEOCAPSID PROTEIN	RABIES VIRUS (STRAIN SAD B19)	299-322								
PNCAP_RVFVZ	NUCLEOCAPSID PROTEIN	RIFT VALLEY FEVER VIRUS (STRAIN ZH-548 M12)	158-180								
PNCAP_SENDS	NUCLEOCAPSID PROTEIN	SENDAI VIRUS (STRAIN Z/HOST MUTANTS)	29-51	86-102							
PNCAP_SENDE	NUCLEOCAPSID PROTEIN	SENDAI VIRUS (STRAIN ENDERS)	42-58	86-102							
PNCAP_SENDH	NUCLEOCAPSID PROTEIN	SENDAI VIRUS (STRAIN HARRIS)	42-58	86-102							
PNCAP_SENDZ	NUCLEOCAPSID PROTEIN	SENDAI VIRUS (STRAIN Z)	29-51	86-102							
PNCAP_SEOUS	NUCLEOCAPSID PROTEIN	SEOUL VIRUS (STRAIN SR-11)	112-138	317-342							
PNCAP_SFSV	NUCLEOCAPSID PROTEIN	SANDFLY FEVER SICILIAN VIRUS	156-181								
PNCAP_TACV	NUCLEOCAPSID PROTEIN	TACAIUBE VIRUS	219-241								
PNCAP_UUK	NUCLEOCAPSID PROTEIN	UUKUNIEMI VIRUS	167-189								
PNCAP_VHSV0	NUCLEOCAPSID PROTEIN	VIRAL HEMORRHAGIC SEPTICEMIA VIRUS (STRAIN 07-71)	240-266								
PNCAP_VHSVM	NUCLEOCAPSID PROTEIN	VIRAL HEMORRHAGIC SEPTICEMIA VIRUS (STRAIN MAKAH)	240-266								
PNCAP_VSVIO	NUCLEOCAPSID PROTEIN	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY 7 STRAIN OC	64-80								
PNCAP_VSVSI											
PNEF_HV1RO	NEGATIVE FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE ROD)	110-129								
PNEF_HV1ST	NEGATIVE FACTOR	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE ST)	106-128								
PNRAM_IABDA	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/BLACK DUCK/AUSTRALIA/702/78)	3-29								
PNRAM_IACHI	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/CHILE/1/83)	3-24								
PNRAM_IADA1	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERTA/28/76)	3-24								
PNRAM_IADGE	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/DUCK/GERMANY/49)	3-29								
PNRAM_IAFPW	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/WEYBRIDGE)	3-29	301-317							
PNRAM_IAHCO	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/EQUINE/COR/16/74)	299-315								
PNRAM_IAHKY	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/EQUINE/KENTUCKY/1/81)	3-29								
PNRAM_IAKIE	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/KIEV/59/79)	3-24								
PNRAM_IALEN	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/1)	3-24								
PNRAM_IAMEI	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/AUMPHIS/1/1111-A/BELLANY/42N)	3-30								
PNRAM_IAPAR	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/PARROT/ULSTER/73)	3-30								
PNRAM_IAPUE	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	3-30								
PNRAM_IARUE	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/RUDDY TURNSTONE/NEW JERSEY/68/	3-29								
PNRAM_IASH3	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/SHEARWATER/AUSTRALIA/72)	3-29								
PNRAM_IATKR	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/TURKEY/ORE.GON/71)	3-24	56-77							
PNRAM_IATRA	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/TERN/AUSTRALIA/AG10C/75)	3-29								
PNRAM_IAUSS	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/USSR/90/77)	3-24								
PNRAM_IAWHM	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/WHALE/MAINE/1/84)	3-29								
PNRAM_IAWIL	NEURAMINIDASE	INFLUENZA A VIRUS (STRAIN A/WILSON-SMITH/33)	3-30								
PNRAM_INBBE	NEURAMINIDASE	INFLUENZA B VIRUS (STRAIN B/BEIJING/1/87)	3-30								
PNRAM_INBHK	NEURAMINIDASE	INFLUENZA B VIRUS (STRAIN B/HONG KONG/8/73)	3-29								
PNRAM_INBLE	NEURAMINIDASE	INFLUENZA B VIRUS (STRAIN B/LEE/40)	3-30								
PNRAM_INBLN	NEURAMINIDASE	INFLUENZA B VIRUS (STRAIN B/LENINGRAD/179/86)	3-30								
PNRAM_INBMD	NEURAMINIDASE	INFLUENZA B VIRUS (STRAIN B/MARYLAND/59)	3-29								
PNRAM_INBMP	NEURAMINIDASE	INFLUENZA B VIRUS (STRAIN B/MEMPHIS/3/89)	3-30								
PNRAM_INBOR	NEURAMINIDASE	INFLUENZA B VIRUS (STRAIN B/ORE.GON/5/89)	3-30								

PCGENE	P1SCTL2SP	All Viruses (No Bacteriophages)									
TITLE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PPOLN_FCVC6	NON-STRUCTURAL POLYPROTEIN	FELINE CALICIVIRUS (STRAIN CFI68 FIV)	443-469	748-766	902-923	1069-1088					
PPOLN_FCVF4	NON-STRUCTURAL POLYPROTEIN	FELINE CALICIVIRUS (STRAIN JAPANESE 4)	300-326								
PPOLN_FCVF9	NON-STRUCTURAL POLYPROTEIN	FELINE CALICIVIRUS (STRAIN F9)	131-186	262-283	919-945	1224-1242	1378-1399	1545-1564			
PPOLN_HEVBU	NON-STRUCTURAL POLYPROTEIN	HEPATITIS E VIRUS (STRAIN BURMA)	250-266	1274-1291							
PPOLN_HEVME	NON-STRUCTURAL POLYPROTEIN	HEPATITIS E VIRUS (STRAIN MEXICO)	250-266	1272-1289							
PPOLN_HEVMY	NON-STRUCTURAL POLYPROTEIN	HEPATITIS E VIRUS (STRAIN MYANMAR)	250-266	1274-1291							
PPOLN_HEVPA	NON-STRUCTURAL POLYPROTEIN	HEPATITIS E VIRUS (STRAIN PAKISTAN)	249-265	1273-1290							
PPOLN_MIDDV	NONSTRUCTURAL POLYPROTEIN	MIDDELBURG VIRUS	488-512	628-648	700-720						
PPOLN_ONNVG	NONSTRUCTURAL POLYPROTEIN	ONYONG-NYONG VIRUS (STRAIN GULU)	90-107	615-634	2148-2163	2220-2240					
PPOLN_RHDV	NON-STRUCTURAL POLYPROTEIN	RABBIT HEMORRHAGIC DISEASE VIRUS	156-180	296-292	299-320	619-642	1130-1153	1429-1454	1471-1494		
PPOLN_RHDV1	NON-STRUCTURAL POLYPROTEIN	RABBIT HEMORRHAGIC DISEASE VIRUS (STRAIN V-351)	135-155								
PPOLN_RRVN	NONSTRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN NB1092)	89-106	611-632	2117-2128	2185-2205					
PPOLN_RRVT	NONSTRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN T48)	182-197	854-874							
PPOLN_RUBVT	NONSTRUCTURAL POLYPROTEIN	RUBELLA VIRUS (STRAIN TOGA RIEN)	84-97	97-113	263-279	630-694	901-918	1374-1393	2035-2052		
PPOLN_SFV	NONSTRUCTURAL POLYPROTEIN	SEMLIKI FOREST VIRUS	91-108	617-643	2062-2077	2134-2154					
PPOLN_SINDO	NONSTRUCTURAL POLYPROTEIN	SINDBIS VIRUS (SUBTYPE OCKELBO / STRAIN EDSBYN 87-5)	630-646	1123-1150	1744-1764	2140-2161	2220-2240				
PPOLN_SINDV	NONSTRUCTURAL POLYPROTEIN	SINDBIS VIRUS (STRAIN HRSP)	630-646	1123-1150	1744-1763	1990-1012	2140-2161	2218-2238			
PPOLR_EPMV	RNA REPLICASE POLYPROTEIN	EGGPLANT MOSAIC VIRUS	808-833								
PPOLR_OYMV	RNA REPLICASE POLYPROTEIN	ONONIS YELLOW MOSAIC VIRUS	707-727	941-962							
PPOLR_TYMV	RNA REPLICASE POLYPROTEIN	TURNIP YELLOW MOSAIC VIRUS	212-233	436-455	1173-1192						
PPOLR_TYMVA	RNA REPLICASE POLYPROTEIN	TURNIP YELLOW MOSAIC VIRUS (AUSTRALIAN ISOLATE)	212-233	436-455	1173-1192						
PPOLR_TYMVC	RNA REPLICASE POLYPROTEIN	TURNIP YELLOW MOSAIC VIRUS (ISOLATE CYAIC)	212-233	436-455	1173-1192						
PPOLS_EEEV	STRUCTURAL POLYPROTEIN	EASTERN EQUINE ENCEPHALITIS VIRUS	35-50	213-229	491-507						
PPOLS_EEEV1	STRUCTURAL POLYPROTEIN	EASTERN EQUINE ENCEPHALITIS VIRUS	35-50	214-230	492-508						
PPOLS_EEVV1	STRUCTURAL POLYPROTEIN	VENEZUELAN EQUINE ENCEPHALITIS VIRUS (STRAIN TC-83)	33-48	229-245	504-522						
PPOLS_EEVVT	STRUCTURAL POLYPROTEIN	VENEZUELAN EQUINE ENCEPHALITIS VIRUS (STRAIN TRINIDAD DON	33-48	229-245	504-522						
PPOLS_IBDV1	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN 52/70)	900-923								
PPOLS_IBDVA	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN AUSTRALIAN O	900-923								
PPOLS_IBDVC	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN CU-1)	900-923								
PPOLS_IBDVF	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN FIG-98)	881-903								
PPOLS_IBDVS	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN STC)	900-922								
PPOLS_ONNVG	STRUCTURAL POLYPROTEIN	ONYONG-NYONG VIRUS (STRAIN GULU)	688-708								
PPOLS_RRVT	STRUCTURAL POLYPROTEIN	ROSS RIVER VIRUS (STRAIN T48)	1216-1243								
PPOLS_RUBVI	STRUCTURAL POLYPROTEIN	RUBELLA VIRUS (VACCINE STRAIN HPV77)	281-301								
PPOLS_RUBVM	STRUCTURAL POLYPROTEIN	RUBELLA VIRUS (STRAIN M33)	280-301								
PPOLS_RUBVR	STRUCTURAL POLYPROTEIN	RUBELLA VIRUS (VACCINE STRAIN RA27/3)	281-302								
PPOLS_RUBVT	STRUCTURAL POLYPROTEIN	RUBELLA VIRUS (STRAIN TIERIEN)	281-302	1041-1060							
PPOLS_SFV	STRUCTURAL POLYPROTEIN	SEMLIKI FOREST VIRUS	35-59	751-772	780-801						
PPOLS_SINDO	STRUCTURAL POLYPROTEIN	SINDBIS VIRUS (SUBTYPE OCKELBO / STRAIN EDSBYN 87-5)	33-52								
PPOLS_SINDV	STRUCTURAL POLYPROTEIN	SINDBIS VIRUS (STRAINS HRSP AND HRLP)	33-52								
PPOLS_WEEV	STRUCTURAL POLYPROTEIN	WESTERN EQUINE ENCEPHALITIS VIRUS	36-51	909-931							
PPOL_AVIRE	POL POLYPROTEIN	AVIAN RETICULOENDOTHELIOSIS VIRUS	283-303								
PPOL_BAEVM	POL POLYPROTEIN	BABOON ENDOGENOUS VIRUS (STRAIN M7)	526-544	973-993	999-1019	1070-1091					
PPOL_BIV06	POL POLYPROTEIN	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 106)	101-119	742-768	868 889						
PPOL_BIV27	POL POLYPROTEIN	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127)	101-119	742-768	868 889						
PPOL_BLVAU	POL POLYPROTEIN	BOVINE LEUKEMIA VIRUS (AUSTRALIAN ISOLATE)	487-504								
PPOL_BLVJ	POL POLYPROTEIN (REVERSE TRANSCRIPTASE	BOVINE LEUKEMIA VIRUS (JAPANESE ISOLATE BLV-1)	487-504								
PPOL_CAEVC	POL POLYPROTEIN	CAPRINE ARTHRITIS ENCEPHALITIS VIRUS (STRAIN CORK)	393-419	656-671							
PPOL_CAMVC	ENZYMATIC POLYPROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	184-204	390-407	471-494						
PPOL_CAMVD	ENZYMATIC POLYPROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN DH)	175-199	375-402	466-489						
PPOL_CAMVE	ENZYMATIC POLYPROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN BBC)	184-204	380-407	471-494						
PPOL_CAMVN	ENZYMATIC POLYPROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY8153)	70-91	185-205	381-408	472-495					
PPOL_CAMVS	ENZYMATIC POLYPROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN STRASBOURG)	184-204	380-407	471-494						
PPOL_CERV	ENZYMATIC POLYPROTEIN	CARNATION ETCHED RING VIRUS	161-186	435-478							
PPOL_COYMV	PUTATIVE POLYPROTEIN	COMMELINA YELLOW MOTTLE VIRUS	320-343	1286-1311	1606-1622	1641-1665					
PPOL_EIAV9	POL POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE 1369)	437-456								
PPOL_EIAVC	POL POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (CLONE CL27)	437-456								

PCGENE	FASTCLUSP	All Viruses (No Bacteriophage)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FASTA NAME	PROTEIN	VIRUS									
PROL_EIAVY	POL POLYPROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (ISOLATE WYOMING)	436-455								
PROL_FENVI	POL POLYPROTEIN	FELINE ENDOGENOUS VIRUS FCEI	183-401	836-836							
PROL_FIVPE	POL POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE PPI, CALIFORNIA)	407-426	755-775							
PROL_FIVSD	POL POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE SAN DIEGO)	407-426	755-775							
PROL_FIVT3	POL POLYPROTEIN	FELINE IMMUNODEFICIENCY VIRUS (ISOLATE TM3)	406-425	754-774	1041-1060						
PROL_FMVD	ENZYMATIC POLYPROTEIN	FIGWORT MOSAIC VIRUS (STRAIN DYS)	191-213	464-487							
PROL_FOAMV	POL POLYPROTEIN	HUMAN SPUMARETROVIRUS	130-147	768-788							
PROL_GALV	POL POLYPROTEIN	GIBBON APE LEUKEMIA VIRUS	19-40	971-991	1048-1071						
PROL_HTLIA	POL POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (STRAIN ATK)	330-346								
PROL_HTLIC	POL POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (CARIBBEAN ISOLATE)	330-346								
PROL_HTLVI	POL POLYPROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE II	609-627								
PROL_HVIA3	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ARV2/SF2 ISOLATE)	860-881								
PROL_HVIBI	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH10 ISOLATE)	615-660	872-899							
PROL_HVIBS	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH8 ISOLATE)	872-899								
PROL_HVIBR	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRU ISOLATE)	872-899								
PROL_HVIEL	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE)	625-647	859-886							
PROL_HVIHG	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HXB2 ISOLATE)	860-881								
PROL_HVIIR	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (IRCSF ISOLATE)	864-881								
PROL_HVIMA	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MAL ISOLATE)	859-886								
PROL_HVIMN	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (MN ISOLATE)	861-890								
PROL_HVIN3	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NEW YORK-5 ISOLATE)	860-887								
PROL_HVINO	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)	625-647	859-886							
PROL_HVIOY	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (OYI ISOLATE)	860-881								
PROL_HVIPV	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	615-660	872-899							
PROL_HVIRH	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (RF/HAT ISOLATE)	859-886								
PROL_HVIU4	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (STRAIN UGANDA/1/SO)	859-886								
PROL_HVIZ2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZR2/CDC-Z34 ISOLATE)	625-647	859-886							
PROL_HVIZR	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ZAIRE 6 ISOLATE)	5-12								
PROL_HV2BE	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE BEN)	379-406	907-934							
PROL_HV2CA	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE CAM2)	886-913								
PROL_HV2D1	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D194)	397-424	925-952							
PROL_HV2D2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D205.7)	907-934								
PROL_HV2D1	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE GHANA-1)	359-386	887-914							
PROL_HV2N2	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE NIH-Z)	343-364	771-792	837-914						
PROL_HV2RO	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE ROD)	888-915								
PROL_HV3SB	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE SBL1SY)	359-386	887-914							
PROL_HV2ST	POL POLYPROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST)	378-400	907-934							
PROL_IHA	PUTATIVE POL POLYPROTEIN	HAMSTER INTRACISTERNAL A-PARTICLE	164-190	198-225	460-477						
PROL_IMA	PUTATIVE POL POLYPROTEIN	MOUSE INTRACISTERNAL A-PARTICLE	183-201	209-236	506-523	731-753	769-789				
PROL_IMAJ	PROBABLE POL POLYPROTEIN	MOUSE INTRACISTERNAL A-PARTICLE	102-120	128-155	407-423	435-447					
PROL_ISAV	POL POLYPROTEIN	SHEEP PULMONARY ADENOMATOSIS VIRUS (JAAGSIEKTE SHEEP RET	186-213	907-336	660-679						
PROL_MCFD	POL POLYPROTEIN	MONK CELL FOCUS FORMING MURINE LEUKEMIA VIRUS (ISOLATE CI	31-53								
PROL_MLVAK	POL POLYPROTEIN	AKR MURINE LEUKEMIA VIRUS	651-671	728-744							
PROL_MLVAV	POL POLYPROTEIN	ABV MURINE LEUKEMIA VIRUS	315-334	978-998	1004-1024	1081-1097					
PROL_MLVCB	POL POLYPROTEIN	CAS-BR-E MURINE LEUKEMIA VIRUS	64-84	90-110	167-183						
PROL_MLVF1	POL POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE 57)	340-359	983-1003	1009-1029	1086-1102					
PROL_MLVFF	POL POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE FB29)	340-359	983-1003	1009-1029	1086-1102					
PROL_MLVFP	POL POLYPROTEIN	FRIEND MURINE LEUKEMIA VIRUS (ISOLATE FVC-51)	340-359	983-1003	1009-1029	1086-1102					
PROL_MLVMO	POL POLYPROTEIN	MOLONEY MURINE LEUKEMIA VIRUS	315-334	978-998	1004-1024	1081-1097					
PROL_MLVRD	POL POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS	315-334	978-998	1004-1024	1081-1097					
PROL_MLVRK	POL POLYPROTEIN	RADIATION MURINE LEUKEMIA VIRUS (STRAIN KAPLAN)	161-183	189-208	466-483						
PROL_MMTVB	POL POLYPROTEIN	MOUSE MAMMARY TUMOR VIRUS (STRAIN BR6)	196-219	731-751							
PROL_MPMV	POL POLYPROTEIN	SIMIAN MASON-PFIZER VIRUS	741-763								
PROL_OMVVS	POL POLYPROTEIN	OVINE LENTIVIRUS (STRAIN SA OMVV)	169-195	469-488	632-647	1045-1063					
PROL_RSVP	POL POLYPROTEIN	ROUS SARCOMA VIRUS (STRAIN PRAGUE C)	319-342								
PROL_RTBV	POLYPROTEIN	RICE TUNGRO BACILLIFORM VIRUS (RTBV)	891-913	1015-1081							
PROL_RTBVP	POLYPROTEIN	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES)	891-913	1046-1081							

PCGENE	P1ICTLZIP	All Viruses (No Bacteriophage)									
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PPOL_SFV1	POL POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 1)	188-204	335-356	845-869	976-996					
PPOL_SFV3L	POL POLYPROTEIN	SIMIAN FOAMY VIRUS (TYPE 1 / STRAIN LK3)	188-206	337-358	847-871	978-998					
PPOL_SIVAI	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM155 ISOLATE)	895-913								
PPOL_SIVAG	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM3 ISOLATE)	911-926	900-920							
PPOL_SIVAI	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM / CLONE GRI-1)	899-926								
PPOL_SIVAT	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE)	726-741	915-935							
PPOL_SIVCZ	POL POLYPROTEIN	CHIMPANZEE IMMUNODEFICIENCY VIRUS	884-911								
PPOL_SIVGB	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE GB1)	680-695	869-896							
PPOL_SIVMI	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (MM142-83 ISOLATE)	180-407	908-935							
PPOL_SIVMK	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (K6W ISOLATE)	380-407	712-739	906-911						
PPOL_SIVS4	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (F236/SMM ISOLATE)	343-370	871-898							
PPOL_SIVSP	POL POLYPROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PBJ14CB ISOLATE)	346-373	874-901							
PPOL_SMRVH	POL POLYPROTEIN	SQUIRREL MONKEY RETROVIRUS	348-368								
PPOL_SMSAV	POL POLYPROTEIN	SIMIAN SARCOMA VIRUS	109-120	177-200							
PPOL_SOCMV	ENZYMATIC POLYPROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	131-155								
PPOL_SRVI	POL POLYPROTEIN	SIMIAN RETROVIRUS	745-763								
PPOL_VILV	POL POLYPROTEIN	VISNA LENTIVIRUS (STRAIN 1514)	488-507	651-666	971-991						
PPOL_VILV1	POL POLYPROTEIN	VISNA LENTIVIRUS (STRAIN 1514 / CLONE LV1-1KS1)	488-507	651-666	971-991						
PPOL_VILV2	POL POLYPROTEIN	VISNA LENTIVIRUS (STRAIN 1514 / CLONE LV1-1KS2)	488-507	651-666	971-991						
PPP13_HCMVA	LARGE STRUCTURAL PHOSPHOPROTEIN PP150	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	153-171	181-210							
PPP38_HCMVA	38 KD STRUCTURAL PHOSPHOPROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	116-141								
PPP41_HSV6G	PHOSPHOPROTEIN P41	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	158-175	396-411							
PPP65_HCMVA	65 KD LOWER MATRIX PHOSPHOPROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	311-333								
PPP65_HCMVT	64 KD LOWER MATRIX PHOSPHOPROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	301-323								
PPP71_HCMVA	71 KD UPPER MATRIX PHOSPHOPROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	79-102								
PPR73_MMTVB	PROTEIN PR73	MOUSE MAMMARY TUMOR VIRUS (STRAIN BR6)	40-61								
PPR73_MMTVG	PROTEIN PR73	MOUSE MAMMARY TUMOR VIRUS (STRAIN GR)	40-61								
PPR7L_MMTVG	PROTEIN PR73	MOUSE MAMMARY TUMOR VIRUS (STRAIN GR)	44-65								
PPR7R_MMTVG	PROTEIN PR73	MOUSE MAMMARY TUMOR VIRUS (STRAIN GR)	40-61								
PRASH_MSVHA	TRANSFORMING PROTEINS P21 AND P29	HARVEY MURINE SARCOMA VIRUS	49-75								
PRASH_RKASV	TRANSFORMING PROTEINS P21 AND P29	RASTEED RAT SARCOMA VIRUS	56-80								
PREEP_CSV	REPEAT ELEMENT PROTEIN	CAMPOLETIS SONORENSIS VIRUS	14-36								
PREFR_VACCV	RIFAMPICIN RESISTANCE PROTEIN	VACCINIA VIRUS (STRAIN WR), AND (STRAIN COPENHAGEN)	274-298	316-335	517-535						
PREFR_VARV	RIFAMPICIN RESISTANCE PROTEIN	VARIOLA VIRUS	274-298	316-335	517-535						
PREV_SIVAG	REV PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (AGM) ISOLATE)	2-19								
PREV_SIVGB	REV PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE GB1)	48-72								
PRIR1_ASFM2	RIBONUCLEOSIDE DIPHOSPHATE REDUCTASE	AFRICAN SWINE FEVER VIRUS (ISOLATE MALAWI LIL 20/1)	139-164	189-210	495-510						
PRIR1_EBV	RIBONUCLEOTIDE REDUCTASE	EPSTEIN-BARR VIRUS (STRAIN B95-8)	793-812								
PRIR1_HCMVA	RIBONUCLEOTIDE REDUCTASE	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	193-212	669-684							
PRIR1_HSV11	RIBONUCLEOTIDE REDUCTASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	415-430	587-613							
PRIR1_HSVEB	RIBONUCLEOTIDE REDUCTASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	60-83	266-288	668-694						
PRIR1_HSVSA	RIBONUCLEOTIDE REDUCTASE	HERPESVIRUS SAIMIRI (STRAIN 11)	136-158								
PRIR1_VACCC	RIBONUCLEOTIDE REDUCTASE	VACCINIA VIRUS (STRAIN COPENHAGEN)	36-51								
PRIR1_VACCV	RIBONUCLEOTIDE REDUCTASE	VACCINIA VIRUS (STRAIN WR)	36-51								
PRIR1_VARV	RIBONUCLEOTIDE REDUCTASE	VARIOLA VIRUS	36-51								
PRIR1_VZVD	RIBONUCLEOTIDE REDUCTASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	34-58	221-247	258-280						
PRIR2_EBV	RIBONUCLEOTIDE REDUCTASE	EPSTEIN-BARR VIRUS (STRAIN B95-8)	209-236								
PRIR2_HSV11	RIBONUCLEOTIDE REDUCTASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	44-66	235-292							
PRIR2_HSV1K	RIBONUCLEOTIDE REDUCTASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	43-65	245-261	274-291						
PRIR2_HSV33	RIBONUCLEOTIDE REDUCTASE	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN 333)	41-63	272-289							
PRIR2_HSVBJ	RIBONUCLEOTIDE REDUCTASE	BOVINE HERPESVIRUS TYPE 1 (STRAIN 34)	244-266								
PRIR2_HSVEB	RIBONUCLEOTIDE REDUCTASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	61-88	251-273							
PRIR2_HSVSA	RIBONUCLEOTIDE REDUCTASE	HERPESVIRUS SAIMIRI (STRAIN 11)	212-239								
PRIR2_SFVKA	RIBONUCLEOTIDE REDUCTASE	SHOPE FIBROMA VIRUS (STRAIN KASZA)	184-206	215-237							
PRIR2_VACCC	RIBONUCLEOTIDE REDUCTASE	VACCINIA VIRUS (STRAIN COPENHAGEN)	184-206								
PRIR2_VACCP	RIBONUCLEOTIDE REDUCTASE	VACCINIA VIRUS (STRAIN L-IVP)	184-206								
PRIR2_VACCV	RIBONUCLEOTIDE REDUCTASE	VACCINIA VIRUS (STRAIN WR)	184-206								

PEGLUE	PJECTLAIP	All Viruses (No Bacteriophage)									
FILE NAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PROT_1AP0	DNA DIRECTED DNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/119/79)	534:557								
PROT_1APU	DNA DIRECTED DNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	534:557								
PROT_1AUD	DNA DIRECTED DNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/UDDEVALLA/1866/78)	534:557								
PROT_1AUN	DNA DIRECTED DNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/SINGAPORE/1/57)	534:557								
PROT_1ATK1	DNA DIRECTED DNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/TURKEY/ONTARIO/7732/65)	534:557								
PROT_1AWL	DNA DIRECTED DNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/WILSON-SMITH/33)	534:557								
PROT_1AZI3	DNA DIRECTED DNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/SWINE/HONG KONG/81/78)	534:557								
PROT_1AZH1	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/SWINE/HONG KONG/81/78)	534:557								
PROT_1AZI1	DNA DIRECTED DNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/15/30)	534:557								
PROT_1AZT1	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/SWINE/TENNESSEE/24/71)	534:557								
PROT_1BAAC	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (COLD-ADAPTED))	13:34								
PROT_1BHAD	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (WILD-TYPE))	13:34								
PROT_1BSJ	DNA DIRECTED DNA POLYMERASE SUBUNIT P2	INFLUENZA B VIRUS (STRAIN B/SINGAPORE/222/79)	13:34								
PROT_1CJJ	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA C VIRUS (STRAIN C/JJ/50)	406:435								
PROT_1AAN	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	219:334	343:360							
PROT_1AUB	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/BUDGERIGAR/HONKAIDO/77/77)	219:334	343:360							
PROT_1ACH1	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/CHILE/1/83)	219:334	343:360							
PROT_1AFW	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK/34)	219:334	343:360							
PROT_1AQU1	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/WEYBRIDGE)	219:334	343:360							
PROT_1AQUA	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/GULL/MARYLAND/704/77)	219:334	343:360							
PROT_1AKI1	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/GULL/ASTRAKHAN/223/84)	219:334	343:360							
PROT_1AUKO	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/EQUINE/KENTUCKY/1/86)	219:334	343:360							
PROT_1AUPX	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/EQUINE/LONDON/1416/73)	219:334	343:360							
PROT_1AKE	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/EQUINE/PRAGUE/56)	219:334	343:360							
PROT_1AKO4	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/KIEV/59/79)	142:360								
PROT_1ALE1	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/KOREA/426/68)	219:334	343:360							
PROT_1ALE2	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/57)	219:334	343:360							
PROT_1ALL5	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/57)	219:334	343:360							
PROT_1AMAN	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/57)	219:334	343:360							
PROT_1AM6	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/NT/60/68)	219:334	343:360							
PROT_1APR8	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	219:334	343:360							
PROT_1ARU9	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/RUDDY TURNSTONE/NEW JERSEY/47)	219:334	343:360							
PROT_1AS1	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/SEAL/MASSACHUSETTS/1/80)	219:334	343:360							
PROT_1ASN	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/SINGAPORE/1/57)	219:334	343:360							
PROT_1ATK4	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/TURKEY/ONTARIO/7732/65)	219:334	343:360							
PROT_1AV7	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/VICTORIA/3/75)	219:334	343:360							
PROT_1AWL	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/WILSON-SMITH/33)	219:334	343:360							
PROT_1AZI1	DNA DIRECTED DNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/15/30)	219:334	343:360							
PROT_1AZT1	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/SWINE/TENNESSEE/24/71)	219:334	343:360							
PROT_1BAAC	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (COLD-ADAPTED))	71:86	535:561							
PROT_1BHAD	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (WILD-TYPE))	71:86	535:561							
PROT_1NCBE	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA C VIRUS (STRAIN C/AICHI/1/81)	74:96	532:551							
PROT_1NCJJ	DNA DIRECTED DNA POLYMERASE SUBUNIT P1	INFLUENZA C VIRUS (STRAIN C/JJ/50)	74:96	532:551							
PROT_1HOOV	DNA DIRECTED DNA POL SUBUNIT P1	TIOGOTO VIRUS	83:101								
PROA_CVHJ	DNA DIRECTED DNA POLYMERASE	JHUMAN CORONAVIRUS (STRAIN 229E)	61:104	410:436	838:878	1402:1507	1527:1542	1593:1668	2125:2169	2974:3002	3327:3359
PROA_CVMJHD	DNA DIRECTED DNA POLYMERASE	MURINE HEPATITIS VIRUS (STRAIN DEFECTIVE JHM)	440:467								
PROA_CVMJHI	DNA DIRECTED DNA POLYMERASE	MURINE CORONAVIRUS MHV (STRAIN JHM)	917:938	1188:1213	1438:1454	1602:1640	1661:1685	1687:1701	1783:1806	2165:2187	2337:2354
PROB_BEV	DNA DIRECTED DNA POLYMERASE	BERNE VIRUS	2476:2494	2660:2676	2844:2861	3229:3253	3405:3423	3933:3956			
PROB_CVMJ3	DNA DIRECTED DNA POLYMERASE	MURINE CORONAVIRUS (STRAIN A59)	866:883	1505:1523	1518:1537	2137:2154					
PROB_CVMJH	DNA DIRECTED DNA POLYMERASE	MURINE CORONAVIRUS MHV (STRAIN JHM)	181:412	1703:1721	1815:1830	2698:2733					
PROB_CVMJS	DNA DIRECTED DNA POLYMERASE	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAI	181:412	1705:1720	1817:1834	2698:2733	2698:2733				
PROB_CVPR1	DNA DIRECTED DNA POLYMERASE	PORCINE RESPIRATORY CORONAVIRUS (STRAIN RM/1570M/ BRITISH)	171:200	482:508							
PROB_BEV	DNA DIRECTED DNA POLYMERASE	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	80:106								
PROL_BTV10	DNA DIRECTED DNA POLYMERASE	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	146:164	338:363	887:911	1335:1355	1654:1674				
			21-41	146:161							

PCGENE	PTNCLZIP	AB Virnet (No Bacteriophage)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
FILENAME	PROTEIN	VIRUS	28..104	301..324	440..465	1096..1116	1317..1334	1441..1465	1519..1554	1869..1896	2001..2023
PROT_BUNYW	RNA POLYMERASE	BUNYAMWERA VIRUS									
PROT_EBOV	RNA-DIRECTED RNA POLYMERASE	EBOLA VIRUS	16..31								
PROT_HANTV	RNA POLYMERASE	HANTAAN VIRUS (STRAIN 76-118)	151..168	171..194	396..411	1561..1585	2081..2105				
PROT_I85V	RNA POLYMERASE BETA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS	1..19								
PROT_I85VA	RNA POLYMERASE BETA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A1)	1..19	1181..1206	1425..1443	1673..1695	1939..1958	2611..2637			
PROT_MABVM	RNA-DIRECTED RNA POLYMERASE	MARBURG VIRUS (STRAIN MUSOKE)	15..30	144..169	233..248	717..741	871..892	946..969	971..986	1042..1067	1410..1436
PROT_MABVP	RNA-DIRECTED RNA POLYMERASE	MARBURG VIRUS (STRAIN POPP)	1711..1731	1990..2017	2071..2094	2731..2751	2906..2930	2981..3004	3011..3026	3087..3112	3450..3476
			15..30	144..169	233..248	471..492	646..669	721..746		1042..1067	1410..1436
PROT_MEASE	RNA POLYMERASE BETA SUBUNIT	MEASLES VIRUS (STRAIN EDMONSTON)	1713..1731	1805..1832	1990..2017	2011..2094	2733..2756	2906..2930	2981..3004	3087..3112	3450..3476
PROT_MOUSEN	RNA POLYMERASE BETA SUBUNIT	MOUSE VIRUS (STRAIN MAVIAHARA VACCINE)	285..311	617..632	998..1013	1160..1181	1379..1394	1926..1940	2038..2063		
PROT_MOVB	RNA POLYMERASE BETA SUBUNIT	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C/43)	41..66	110..135	265..280	961..982	1100..1124	1132..1153	1601..1622	2138..2161	
PROT_PIBH4	RNA POLYMERASE BETA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN TOSHIBA)	1701..1731	1781..1792	1931..1952	2040..2067	2309..2331	2567..2588	2915..2934		
PROT_PIBH4	RNA POLYMERASE BETA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN NIH 47885)	109..124	268..291	388..334	1309..1331	1567..1588	1903..2010	2715..2734		
PROT_PUUAG1	RNA-DIRECTED RNA POLYMERASE	PUUMALA VIRUS (STRAIN HALTNAS 61)	172..191	304..330	344..367	915..939	1048..1068	2064..2084	2111..2134		
PROT_RABVS	RNA POLYMERASE BETA SUBUNIT	RABIES VIRUS (STRAIN PV)	173..194	326..344	543..561	741..762	1446..1468	1492..1517			
PROT_RDV	RNA-DIRECTED RNA POLYMERASE	RICE DWARF VIRUS	266..286	542..561	741..762	1446..1468	1492..1517	1744..1761			
PROT_SENDI	RNA POLYMERASE BETA SUBUNIT	SENDAI VIRUS (STRAIN 2 / HOST MUTANTS)	10..37	533..560	680..697	1293..1326					
PROT_SENDE	RNA POLYMERASE BETA SUBUNIT	SENDAI VIRUS (STRAIN ENDERS)	187..209	2009..2035							
PROT_SENDZ	RNA POLYMERASE BETA SUBUNIT	SENDAI VIRUS (STRAIN Z)	44..63	104..130	196..210	844..867	895..900	1401..1420	1844..1864	2107..2128	
PROT_SEOUR	RNA-DIRECTED RNA POLYMERASE	SEOUL VIRUS (STRAIN 80-39)	44..63	104..130	196..210	844..867	895..900	1401..1420	1844..1864	2107..2128	
PROT_SVSVR	RNA POLYMERASE BETA SUBUNIT	SIMIAN VIRUS 5 (STRAIN 21000-WR)	151..168	177..194	394..419	596..617	1561..1585	2081..2105			
PROT_TSWVS	RNA POLYMERASE BETA SUBUNIT	SONCHUS YELLOW NET VIRUS	41..66	108..124	261..289	1094..1118	1135..1147	1536..1560	2112..2137		
PROT_ACLSV	RNA-DIRECTED RNA POLYMERASE	APPLE CHLOROTIC LEAF SPOT VIRUS	126..146	191..206	605..627	704..721	861..885	1886..917	1484..1510	1776..1792	
PROT_BWYVP	PUTATIVE RNA-DIRECTED RNA POL	BEET WESTERN YELLOWS VIRUS (ISOLATE FL-1)	226..247	1036..1054	1137..1155	1375..1391	2509..2527	2570..2592			
PROT_BYDVI	PUTATIVE RNA-DIRECTED RNA POL	BARLEY YELLOW DWARF VIRUS (ISOLATE MAV-PS1)	299..326								
PROT_BYDVA	PUTATIVE RNA-DIRECTED RNA POL	BARLEY YELLOW DWARF VIRUS (ISOLATE PAV)	339..386	391..416	505..511						
PROT_BYDVA	PUTATIVE RNA-DIRECTED RNA POL	BARLEY YELLOW DWARF VIRUS (ISOLATE P-PAV)	339..386	391..416	505..511						
PROT_CLRMV	PROBABLE RNA-DIRECTED RNA POL	CARNATION MOTTLE VIRUS	4..30	92..107	127..150	810..833					
PROT_CMV3	PUTATIVE RNA-DIRECTED RNA POL	CUCUMBER GREEN MOTTLE MOSAIC VIRUS (WATERMELON STRAIN	401..466	514..541	1017..1033	1525..1539					
PROT_CRV	PROBABLE RNA-DIRECTED RNA POL	CUCUMBER NECROSIS VIRUS	277..300	345..371	470..494						
PROT_CRV	PROBABLE RNA-DIRECTED RNA POL	CYMBIDIUM RINGSPOT VIRUS	98..111	345..371	470..494						
PROT_PMV1	PUTATIVE RNA-DIRECTED RNA POL	INFECTIOUS PANCREATIC NECROSIS VIRUS (SEROTYPE JASPER)	221..238								
PROT_LYCVA	RNA POLYMERASE	LYMPHOCYTIC CHORIOMENINGITIS VIRUS (STRAIN ARMSTRONG)	35..52	597..613	659..682	988..1008	1234..1258	1770..1795	2077..2099		
PROT_LYCVW	RNA POLYMERASE	LYMPHOCYTIC CHORIOMENINGITIS VIRUS (STRAIN WE)	35..52								
PROT_MCMV	PROBABLE RNA-DIRECTED RNA POL	MAIZE CHLOROTIC MOTTLE VIRUS	1641	101..127	375..399						
PROT_PEAMV	RNA-DIRECTED RNA POLYMERASE	PEA ENATION MOSAIC VIRUS	144..161	316..336	471..496	558..574					
PROT_PLRV1	PUTATIVE RNA-DIRECTED RNA POL	POTATO LEAFROLL VIRUS (STRAIN 1)	131..154	576..600							
PROT_PLRVW	PUTATIVE RNA-DIRECTED RNA POL	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN)	131..150	576..600							
PROT_PMVS	PUTATIVE RNA-DIRECTED RNA POL	PEPPER MILD MOTTLE VIRUS (STRAIN SPAIN)	175..195	702..726	1069..1096	1481..1507					
PROT_RCMV	PUTATIVE RNA-DIRECTED RNA POL	RED CLOVER NECROTIC MOSAIC VIRUS	178..200								
PROT_REOVI	RNA-DIRECTED RNA POLYMERASE	REOVIRUS (TYPE 1 STRAIN DIS0NES)	144..161	316..336	471..496	558..574					
PROT_REOVL	RNA-DIRECTED RNA POLYMERASE	REOVIRUS (TYPE 1 STRAIN LANG)	101..176								
PROT_ROTBK	RNA-DIRECTED RNA POL SUBUNIT VP1	BOVINE ROTAVIRUS (STRAIN B1)	131..156	247..265	864..881	904..921		942..967	1017..1046		
PROT_ROTBU	RNA-DIRECTED RNA POL SUBUNIT VP1	BOVINE ROTAVIRUS (STRAIN UK)	131..156	247..265	864..881	904..921		942..967	1017..1046		
PROT_ROTPC	RNA-DIRECTED RNA POL SUBUNIT VP1	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	198..223	314..334	818..835	868..884		936..957	1004..1021	1037..1046	
PROT_ROTPD	RNA-DIRECTED RNA POL SUBUNIT VP1	PORCINE ROTAVIRUS (STRAIN GOTTFRIED)	131..156	247..265	864..881	904..921		942..967	1017..1046		
PROT_ROTSI	RNA-DIRECTED RNA POL SUBUNIT VP1	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	131..156	247..265	864..881	904..921		942..967	1017..1046		
PROT_SBMV	PROBABLE RNA-DIRECTED RNA POL	SOUTHERN BEAN MOSAIC VIRUS	36..44	111..143	188..206	287..303		444..466	835..845		
PROT_TACV	RNA POLYMERASE	TAT ARTERIVIRUS	88..107	168..189	231..249	1676..1692	2018..2046				

PCGENE	PISCTLZIP	All Viruses (No Bacteriophages)										
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9	
PRRPO_TBSVC	PUTATIVE RNA-DIRECTED RNA POL	TOMATO BUSHY STUNT VIRUS (STRAIN CHERRY)	277-300	345-371	470-494							
PRRPO_TCV	PUTATIVE RNA-DIRECTED RNA POL	TURNIP CRINKLE VIRUS	31-58	241-267								
PRRPO_TMGMV	PUTATIVE RNA-DIRECTED RNA POL	TOBACCO MILD GREEN MOSAIC VIRUS (TMV STRAIN U2)	209-231	1085-1100								
PRRPO_TMV	PUTATIVE RNA-DIRECTED RNA POL	TOBACCO MOSAIC VIRUS (VULGARE)	700-724	1090-1105	1587-1610							
PRRPO_TMVKR	PUTATIVE RNA-DIRECTED RNA POL	TOBACCO MOSAIC VIRUS (STRAIN KOREAN)	700-724	1090-1105	1587-1610							
PRRPO_TMVTO	PUTATIVE RNA-DIRECTED RNA POL	TOBACCO MOSAIC VIRUS (STRAIN TOMATO/L)	700-724	1090-1105	1151-1170	1587-1610						
PRRPO_TNVA	RNA-DIRECTED RNA POLYMERASE	TOBACCO NECROSIS VIRUS (STRAIN A)	113-135									
PRRPO_TNVD	RNA-DIRECTED RNA POLYMERASE	TOBACCO NECROSIS VIRUS (STRAIN D)	5-26									
PRRPP_CHAV	RNA POLYMERASE ALPHA SUBUNIT	CHANDIPURA VIRUS (STRAIN 1653514)	124-146									
PRRPP_MUMPI	RNA POLYMERASE ALPHA SUBUNIT	MUMPS VIRUS (STRAIN SBL-1)	211-238									
PRRPP_MUMPE	RNA POLYMERASE ALPHA SUBUNIT	MUMPS VIRUS (STRAIN ENDERS)	212-239									
PRRPP_MUMPM	RNA POLYMERASE ALPHA SUBUNIT	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	212-239									
PRRPP_NDVA	RNA POLYMERASE ALPHA SUBUNIT	NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA-VICTORIA/33)	256-276									
PRRPP_NDVB	RNA POLYMERASE ALPHA SUBUNIT	NEWCASTLE DISEASE VIRUS (STRAIN HERTS/33/56)	256-276									
PRRPP_PIH1	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS	216-243									
PRRPP_PIH3T	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN TOSHIBA)	216-243									
PRRPP_PIHA	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 4A VIRUS (STRAIN TOSHIBA)	220-247									
PRRPP_PIHB	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 4B VIRUS (STRAIN 68-317)	220-247									
PRRPP_PIRYV	RNA POLYMERASE ALPHA SUBUNIT	PIRY VIRUS	134-161									
PRRPP_RABVA	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN AVO1)	8-32									
PRRPP_RABVC	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN CVS-11)	8-32									
PRRPP_RABVE	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN ERA), AND (STRAIN PM)	8-32	216-237								
PRRPP_RABVP	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN PV)	8-32	216-237								
PRRPP_RABVS	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN SAD B19)	8-32	216-237								
PRRPP_SVJ	RNA POLYMERASE ALPHA SUBUNIT	SIMIAN VIRUS 5 (STRAIN WJ)	199-226	282-301								
PRRPP_VSVIO	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY/STRAIN OC	197-223									
P237R_ASFB7	237?R PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	196-218									
PSODC_VACCC	SUPEROXIDE DISMUTASE LIKE PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	19-40									
PSODC_VACCV	SUPEROXIDE DISMUTASE LIKE PROTEIN	VACCINIA VIRUS (STRAIN WR)	19-40									
PSODC_VARV	SUPEROXIDE DISMUTASE LIKE PROTEIN	VARIOLA VIRUS	19-40									
PSPHR_AMEPV	SPHEROIDIN	AMSACTA MOOREI ENTOMOPOXVIRUS	58-79	627-646								
PSPHR_CBEPV	SPHEROIDIN PRECURSOR	CHORISTONEURA BIENNIS ENTOMOPOXVIRUS	177-201									
PSPIT_MYXVL	SERPIN 1	MYXOMA VIRUS (STRAIN LAUSANNE)	63-88	217-243								
PSWFA_SPVKA	SWF8A PROTEIN	SWINEPOX VIRUS (STRAIN KASZA)	61-83									
PTALA_BFDV	LARGE T ANTIGEN	BUDGERIGAR FLEDGLING DISEASE VIRUS	354-369									
PTALA_POVBA	LARGE T ANTIGEN	POLYOMA VIRUS BK (STRAIN AS)	203-224	429-444								
PTALA_POVBK	LARGE T ANTIGEN	POLYOMA VIRUS BK	203-224	429-444								
PTALA_POVBO	LARGE T ANTIGEN	BOVINE POLYOMA VIRUS	385-408									
PTALA_POVHA	LARGE T ANTIGEN	HAMSTER POLYOMA VIRUS	43-69	349-364								
PTALA_POVJC	LARGE T ANTIGEN	POLYOMA VIRUS JC	201-223	428-443								
PTALA_POVLV	LARGE T ANTIGEN	LYMPHOTROPIC POLYOMA VIRUS	43-69	516-542								
PTALA_POVMJ	LARGE T ANTIGEN	MOUSE POLYOMA VIRUS (STRAIN 3)	576-591									
PTALA_POVMA	LARGE T ANTIGEN	MOUSE POLYOMA VIRUS (STRAIN A2)	574-589									
PTALA_POVMC	LARGE T ANTIGEN	MOUSE POLYOMA VIRUS (STRAIN CRAWFORD SMALL-PLAQUE)	571-586									
PTALA_POVMK	LARGE T ANTIGEN	MOUSE POLYOMA VIRUS (STRAIN KILHAM)	173-191	298-304	446-472							
PTALA_SV40	LARGE T ANTIGEN	SIMIAN VIRUS 40 (SV40)	200-223	427-442								
PTAMB_POVHA	MIDDLE T ANTIGEN	HAMSTER POLYOMA VIRUS	43-69									
PTASM_POVHA	SMALL T ANTIGEN	HAMSTER POLYOMA VIRUS	43-69									
PTASM_POVLV	SMALL T ANTIGEN	LYMPHOTROPIC POLYOMA VIRUS	43-69									
PTASM_POVMK	SMALL T ANTIGEN	MOUSE POLYOMA VIRUS (STRAIN KILHAM)	43-69	87-89								
PTATR_NPVAC	TRANS-ACTIVATING TRANS REG PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	406-431									
PTATR_NPVBM	TRANS-ACTIVATING TRANS REG PROTEIN	BOMBYX MORI NUCLEAR POLYHEDROSIS VIRUS	411-436									
PTATR_NPVOP	TRANS-ACTIVATING TRANS REG PROTEIN	OROYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	389-414									
PTAT_BIV06	TRANS-ACTIVATING TRANS REG PROTEIN	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 106)	44-59									
PTAT_BIV27	TRANS-ACTIVATING TRANS REG PROTEIN	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127)	44-59									
PTAT_HTL1A	TRANS-ACTIVATING TRANS REG PROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (STRAIN ATK)	192-210									
PTAT_HTL1C	TRANS-ACTIVATING TRANS REG PROTEIN	HUMAN T-CELL LEUKEMIA VIRUS TYPE I (CARIBBEAN ISOLATE)	192-210									

PCCLNE	DUCTLIP	All Viruses (No Bacteriophage)										
TITLE NAME	PROTEIN	VIRUS	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA2
PTAT_HV1U	TAT PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (STRAIN UGANDAN / 150	19-49									
PTCD_FLV	T-CELL RECEPTOR BETA CHAIN PRECURSOR	FELINE LEUKEMIA VIRUS	6-22	98-118								
PTEG_HSV2B	PROBABLE TEGUMENT PHOSPHOPROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	101-118									
PTEG_HSV2K	TEGUMENT PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A)	101-118									
PTEGU_EBV	LARGE TEGUMENT PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95.8)	493-506	767-789	814-835	1055-1075	1184-1204	1466-1486	1868-1893	2061-2077	1102-1126	
PTEGU_HCMVA	PROBABLE LARGE TEGUMENT PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	343-358	644-668	1061-1077	1307-1322	1333-1345	1419-1446	1509-1536	1951-1974	2199-2221	
PTEGU_HSV11	LARGE TEGUMENT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	13-27	631-646	1732-1759							
PTEGU_HSV2G	LARGE TEGUMENT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN G5)	133-152	345-365	615-636	1027-1043	1308-1328	1363-1379				
PTEGU_HSV2S	LARGE TEGUMENT PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	433-456	559-582	1072-1099	1107-1122	1618-1640	1764-1791	2262-2285			
PTEGU_HSV3A	PROBABLE LARGE TEGUMENT PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	467-481	714-737	988-1008	1121-4137	1133-1174	1177-1191	1501-1515	1601-1622	1898-1915	
PTEGU_VZVD	LARGE TEGUMENT PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	2421-2439	433-456	494-511	711-726	801-823	895-920	1013-1034	1360-1376	1633-1657	1726-1747
PTEGU_ADE2I	DNA TERMINAL PROTEIN	HUMAN ADENOVIRUS TYPE 2	2004-2029	2276-2287	2694-2711							
PTEGU_ADE5I	DNA TERMINAL PROTEIN	HUMAN ADENOVIRUS TYPE 5	63-80	591-616								
PTEGU_ADE7I	DNA TERMINAL PROTEIN	HUMAN ADENOVIRUS TYPE 7	63-80	591-616								
PTEGU_ADE12	DNA TERMINAL PROTEIN	HUMAN ADENOVIRUS TYPE 12	63-80	590-603								
PTOP1_AGIBY	DNA TOPOISOMERASE II	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	46-63	334-350	548-569							
PTOP2_AGIMO	DNA TOPOISOMERASE II	AFRICAN SWINE FEVER VIRUS (ISOLATE MALAWI LIL 20/1)	119-146	486-507								
PTRN_HCMVA	HYPOTHETICAL PROTEIN TRL14	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	119-146	685-706								
PTUE_AVIGE	RET TRANSFORMING PROTEIN	AVIAN RETICULOENDOTHELIOSIS VIRUS	139-165									
PTYSV_VZVD	THYMIDYLATE SYNTHASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	36-76									
PUTSK_HSV2U	POSSIBLE DANECTOVIR KINASE	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN UGANDA-1103)	11-29									
PUL_HSV2U	PROTEIN UL	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN UGANDA-1103)	400-415									
PUDP_HPVAC	UDP-GLUCOSYLTRANSFERASE PRECURSOR	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	6-37									
PULI1_HCMVA	HYPOTHETICAL PROTEIN UL1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	413-437									
PULI1_HCMVA	HYPOTHETICAL PROTEIN UL1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	23-49									
PULI3_EBV	VIRION PROTEIN BBRF1	EPSTEIN-BARR VIRUS (STRAIN B95.8)	11-37									
PULI5_HCMVA	HYPOTHETICAL PROTEIN UL6	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	333-366									
PULI6_HSV11	VIRION PROTEIN UL6	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	191-208									
PULI6_HSV2B	VIRION GENE 36 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	400-429									
PULI6_HSV2A	VIRION GENE 43 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	437-461									
PULI7_EBV	BBLF3 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95.8)	44-68									
PULI7_HCMVA	HYPOTHETICAL PROTEIN UL7	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	1127-1149									
PULI7_HSV11	PROTEIN UL7	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	88-108	116-209								
PULI7_HSV2B	GENE 33 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	177-200									
PULI8_HSV2A	GENE 40 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	11-33									
PULI8_VZVD	GENE 33 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	44-61									
PULI8_HSV11	PROTEIN UL7	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	138-178	202-224								
PULI8_VZVD	GENE 33 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	114-138	789-776								
PULI9_HSV11	ORIGIN OF REPLICATION BINDING PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	228-255	591-616								
PULI9_HSV2B	ORIGIN OF REPLICATION BINDING PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	164-184									
PULI9_VZVD	ORIGIN OF REPLICATION BINDING PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	171-196	613-628								
PULI1_HCMVA	HYPOTHETICAL PROTEIN UL10	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	68-93	168-190	484-508							
PULI3_HCMVA	HYPOTHETICAL PROTEIN UL13	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	223-247									
PULI4_HCMVA	HYPOTHETICAL PROTEIN UL14	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	440-463									
PULI7_HSV11	HYPOTHETICAL ULI4 PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	280-299									
PULI8_HSV2B	HYPOTHETICAL GENE 48 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	96-116									
PULI8_HSV11	PROTEIN UL10	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	1060-1077									
PULI8_HSV2A	GENE 48 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	12-29									
PULI8_HSV2B	GENE 33 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	26-43	98-119	124-139							
PULI8_HSV2A	GENE 33 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	69-87	238-255								
PULI8_VZVD	GENE 48 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	65-80	317-332								
PULI9_EBV	PROTEIN BOLF1	EPSTEIN-BARR VIRUS (STRAIN B95.8)	1175-393									
PULI1_HCMVA	HYPOTHETICAL PROTEIN UL17	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	60-82									
PULI7_HSV11	PROTEIN UL17	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	156-181									
PULI7_HSV2A	GENE 33 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	94-116	348-370								
PULI9_HCMVA	HYPOTHETICAL PROTEIN UL19	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	61-85									

PCGENE	PUTCLUST	(All Viruses (No Bacteriophage))										
FILENAME	PROTEIN	VIRUS	AREA1	AREA1	AREA1	AREA5	AREA1	AREA4	AREA1	AREA1	AREA1	AREA2
PUL30_PRVHO	UL30 MEMBRANE PROTEIN HOMOLOG	PSEUDORABIES VIRUS (STRAIN NIA-3)	14-76									
PUL30_VZVD	GENE 30 MEMBRANE PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	201-224									
PUL31_HCMVA	HYPOTHETICAL PROTEIN UL31	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	91-110									
PUL31_HSV11	PROTEIN UL31	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	91-114	130-146								
PUL31_HSV18	PROTEIN UL31	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN HFEM)	91-114	130-146								
PUL31_HSVEB	GENE 40 PROTEIN	EQUINE HERPESVIRUS 1 TYPE 1 (STRAIN ABAR)	91-114	130-146	284-331	379-403	412-427					
PUL31_VZVD	GENE 31 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	118-148	176-199	260-337							
PUL31_HCMVA	HYPOTHETICAL PROTEIN UL32	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	176-199									
PUL31_EBV	PROTEIN BXLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	44-67									
PUL34_HCMVA	HYPOTHETICAL PROTEIN UL34	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	134-155									
PUL34_HSV11	PROTEIN UL34	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	206-232									
PUL34_ILTVT	PROTEIN UL34 HOMOLOG	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN THORNE V882)	145-166									
PUL35_HCMVA	HYPOTHETICAL PROTEIN UL35	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	138-159									
PUL35_HSV11	VIRION PROTEIN UL35	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	481-500									
PUL35_HSVEB	VIRION PROTEIN UL35	EQUINE HERPESVIRUS 1 TYPE 1 (STRAIN AB4P)	86-101									
PUL35_HSVSA	VIRION GENE 19 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	89-104	110-147								
PUL35_ILTVT	44 KD VIRION PROTEIN	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN THORNE V882)	244-268	344-368								
PUL37_HCMVA	HYPOTHETICAL PROTEIN UL37	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	178-203	318-326								
PUL39_HCMVA	HYPOTHETICAL PROTEIN UL39	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	307-334	486-507								
PUL36_HCMVA	HYPOTHETICAL PROTEIN UL36	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	159-184									
PUL37_EBV	PROTEIN BILF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	9-32									
PUL37_HCMVA	HYPOTHETICAL PROTEIN UL37	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	373-396									
PUL37_HSV11	PROTEIN UL37	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	418-437	531-602								
PUL37_HSVEB	GENE 37 PROTEIN	EQUINE HERPESVIRUS 1 TYPE 1 (STRAIN AB4P)	91-116									
PUL37_HSVSA	GENE 40 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	104-123	288-309								
PUL37_VZVD	GENE 37 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	143-161	163-190								
PUL38_HSV11	PROBABLE MAJOR ENV GLYCOPROTEIN UL22	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	113-138	295-316								
PUL38_VZVD	MAJOR ENVELOPE GLYCOPROTEIN 200	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	133-143	164-343								
PUL39_VZVD	PROBABLE MAJOR ENV GLYCOPROTEIN 36	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	81-108									
PUL39_HCMVA	U-PROTEIN COUPLED REC HOMOLOG UL33	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	535-574									
PUL39_HSV11	HYPOTHETICAL PROTEIN UL34	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	76-102									
PUL41_HSV11	VIRION PROTEIN UL41	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	216-233	297-321								
PUL41_HSVEB	VIRION GENE 36 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	251-273									
PUL41_VZVD	VIRION GENE 41 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	249-264									
PUL43_HCMVA	HYPOTHETICAL PROTEIN UL43	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	244-266									
PUL43_EBV	PROTEIN BOLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	228-253	310-329	331-348							
PUL37_HSV11	PROTEIN UL37	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	141-168	187-410								
PUL37_HSVEB	GENE 37 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	21-36	135-153	903-920	984-1004						
PUL37_HSVSA	GENE 43 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	414-440	491-510	664-680	778-805	901-919					
PUL37_VZVD	GENE 37 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	5-20	104-124	140-165	168-191	196-212	229-244	248-269	670-694	776-803	
PUL38_HCMVA	HYPOTHETICAL PROTEIN UL38	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	904-923									
PUL40_HCMVA	HYPOTHETICAL PROTEIN UL40	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	199-220									
PUL41_HCMVA	HYPOTHETICAL PROTEIN UL41	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	18-33									
PUL43_HSV11	MEMBRANE PROTEIN UL43	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	15-31	116-134								
PUL43_HSVEB	GENE 17 MEMBRANE PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	41-63	139-160	341-363	394-421						
PUL43_VZVD	GENE 13 MEMBRANE PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	24-40	86-107								
PUL43_HSV11	PROTEIN UL43	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	88-116	127-146	160-180	277-299	374-400					
PUL43_HSV1K	PROTEIN UL43	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	23-46									
PUL43_HSV1M	PROTEIN UL43	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN MP)	23-46									
PUL47_HCMVA	PROTEIN UL47	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	15-46									
PUL47_HSV11	VIRION PROTEIN UL47	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	193-218	438-464	533-556	614-640	741-766					
PUL47_HSV1F	VIRION PROTEIN UL47	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN F)	404-425									
PUL47_HSV2G	90 T KD ALPHA TRANS-INDUCING PROTEIN	BOVINE HERPESVIRUS TYPE 1 (STRAIN P8-5)	404-425									
PUL47_HSV2H	97 KD ALPHA TRANS-INDUCING PROTEIN	EQUINE HERPESVIRUS TYPE 4	401-968									
			1180-1401									

PGENE	FUNCTION	All Viruses (No Bacteriophages)								
FULL NAME	PROTEIN	VIRUS	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA2
FUL1_HSVEB	67 KD ALPHA TRANS-INDUCING PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	347-608							
FUL1_VZVD	ALPHA TRANS-INDUCING FACTOR 91 KD PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	41-58	608-827						
FUL10_EBV	HYPOTHETICAL BFRF3 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	336-538							
FUL10_HCMVA	HYPOTHETICAL PROTEIN UL49	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	240-364	538-541						
FUL10_HSV11	TEGUMENT PROTEIN UL49	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	228-252							
FUL10_HSV1A	HYPOTHETICAL GENE 66 PROTEIN	HERPES VIRUS SAIMIRI (STRAIN 11)	222-253							
FUL10_HCMVA	PROTEIN UL30	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	96-119							
FUL11_HSV11	PROTEIN UL31	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	49-66							
FUL11_HSV1A	GENE 8 PROTEIN	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	107-196							
FUL11_HSV2G	18 KD PHOSPHOPROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	164-189							
FUL11_VZVD	GENE 7 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	30-49							
FUL13_EBV	PROBABLE DNA REPLICATION PROTEIN BSLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	44-58							
FUL13_HSV11	DNA REPLICATION PROTEIN UL33	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	17-37	65-91						
FUL13_HSV1A	DNA REPLICATION PROTEIN UL33	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	8-23							
FUL13_HSV1B	DNA REPLICATION PROTEIN UL33	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	6-23	135-159	176-197					
FUL13_HSV2G	PROBABLE DNA REPLICATION PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	489-508	586-605						
FUL13_VZVD	PROBABLE DNA REPLICATION GENE 8 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	406-444	643-670						
FUL13_HCMVA	PROTEIN UL33	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	131-148							
FUL13_HSV2U	UL33 PROTEIN HOMOLOG	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN UGANDA-1102)	64-80							
FUL14_HCMVA	HYPOTHETICAL PROTEIN UL40	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	126-141							
FUL14_HCMVA	HYPOTHETICAL PROTEIN UL42	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	62-84	178-205						
FUL14_HCMVA	HYPOTHETICAL PROTEIN UL40	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	87-107							
FUL15_HCMVA	PROBABLE DNA REPLICATION PROTEIN UL70	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	215-231	409-410	499-514	626-645	776-793			
FUL21_HCMVA	HYPOTHETICAL PROTEIN UL71	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	114-130							
FUL21_EBV	HYPOTHETICAL BLLF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	42-57							
FUL21_HSV1A	HYPOTHETICAL GENE 53 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	51-73							
FUL24_HCMVA	HYPOTHETICAL PROTEIN UL74	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	13-33							
FUL25_HCMVA	VIRION PROTEIN UL75	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	268-291	407-438						
FUL29_HCMVA	HYPOTHETICAL PROTEIN UL79	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	11-30	180-203						
FUL2_HCMVA	43 KD EARLY NONSTRUCTURAL PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	45-58							
FUL2_HCMVT	43 KD EARLY NONSTRUCTURAL PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	100-116							
FUL31_EBV	HYPOTHETICAL PROTEIN BCRF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	100-116							
FUL31_HCMVA	HYPOTHETICAL PROTEIN UL97	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	406-422	538-557						
FUL31_HSV2U	HYPOTHETICAL PROTEIN JR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN UGANDA-1102)	285-301	509-535	604-618	633-653	733-751			
FUL32_HSV1A	HYPOTHETICAL GENE 34 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	301-322	507-529						
FUL33_HCMVA	HYPOTHETICAL PROTEIN UL98	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	165-187	402-422	539-555					
FUL34_HCMVA	HYPOTHETICAL PROTEIN UL99	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	175-191	233-279						
FUL35_HCMVA	HYPOTHETICAL PROTEIN 8R	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	136-173							
FUL35_HSV2U	HYPOTHETICAL PROTEIN 8R	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN UGANDA-1102)	35-50							
FUL36_HCMVA	HYPOTHETICAL PROTEIN UL92	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	43-65							
FUL36_HSV2U	HYPOTHETICAL PROTEIN 9A	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN UGANDA-1102)	76-99							
FUL37_HCMVA	PROTEIN UL94	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	38-55	168-189						
FUL37_EBV	HYPOTHETICAL BFRF3 PROTEIN BCLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)	49-70							
FUL37_HCMVA	HYPOTHETICAL PROTEIN UL93	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	281-333							
FUL38_HSV2U	HYPOTHETICAL PROTEIN 11A	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN UGANDA-1102)	508-526							
FUL38_HSV1A	GANCICLOVIR KINASE	HERPESVIRUS SAIMIRI (STRAIN 11)	6-30	128-146						
FUL3_HCMVA	HYPOTHETICAL PROTEIN UL102	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	187-209							
FUL3_HCMVA	PROTEIN UL101	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	208-228	541-567						
FUL40_HCMVA	VIRION PROTEIN UL104	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	164-181							
FUL41_HCMVA	HYPOTHETICAL PROTEIN UL106	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	36-47							
FUL42_HCMVA	HYPOTHETICAL PROTEIN UL107	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	215-235	433-450						
FUL43_HCMVA	HYPOTHETICAL PROTEIN UL111	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	93-118							
FUL44_HCMVA	HYPOTHETICAL PROTEIN UL113	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	60-81							
FUL45_HCMVA	HYPOTHETICAL PROTEIN UL114	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	298-319							
FUL47_HCMVA	HYPOTHETICAL PROTEIN UL117	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	178-195							
FUL48_HCMVA	HYPOTHETICAL PROTEIN UL118	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	108-130							
FUL4_HCMVA	HYPOTHETICAL PROTEIN UL121	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	129-153							

PCGENE	PIRCTL2IP	All Viruses (No Bacteriophages)									
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PUL02_HCMVA	HYPOTHETICAL PROTEIN UL132	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	4-22								
PUNG_FOWPI	URACIL-DNA GLYCOSYLASE	FOWLPOX VIRUS (STRAIN FP-1)	13-27								
PUNG_HSVEB	URACIL-DNA GLYCOSYLASE	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	224-250								
PUNG_VACCC	URACIL-DNA GLYCOSYLASE	VACCINIA VIRUS (STRAIN COPENHAGEN)	82-103								
PUNG_VACCV	URACIL-DNA GLYCOSYLASE	VACCINIA VIRUS (STRAIN WR)	82-103								
PUNG_VARV	URACIL-DNA GLYCOSYLASE	VARIOLA VIRUS	82-103								
PUNG_VZVD	URACIL-DNA GLYCOSYLASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	217-243								
PUS01_HSVEB	GENE 48 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	48-63								
PUS01_HSVEK	US1 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A)	48-63								
PUS02_PRVNS	PROTEIN US3 HOMOLOG	PSEUDORABIES VIRUS (STRAIN NIA-3)	120-136								
PUS03_HCMVA	HOLF1 PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	24-39								
PUS05_HSV11	PUTATIVE GLYCOPROTEIN US5	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	55-70								
PUS05_HSV2	PUTATIVE GLYCOPROTEIN US5	HERPES SIMPLEX VIRUS (TYPE 2)	55-70								
PUS06_HCMVA	HYPOTHETICAL PROTEIN HXLF3	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	179-206								
PUS11_HCMVA	HYPOTHETICAL PROTEIN HXLF1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	98-113								
PUS12_HCMVA	HYPOTHETICAL PROTEIN HVLF6	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	39-50	113-135	195-222						
PUS13_HCMVA	HYPOTHETICAL PROTEIN HVLF5	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	11-33	208-231							
PUS14_HCMVA	HYPOTHETICAL PROTEIN HVLF4	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	336-360								
PUS15_HCMVA	HYPOTHETICAL PROTEIN HVLF3	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	378-402	443-466							
PUS16_HCMVA	HYPOTHETICAL PROTEIN HVLF2	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	151-174	245-267							
PUS17_HCMVA	HYPOTHETICAL PROTEIN HVLF1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	110-126								
PUS18_HCMVA	MEMBRANE PROTEIN HWLF4	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	130-142	178-202	214-232						
PUS22_HCMVA	HYPOTHETICAL PROTEIN HWLF2	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	41-67	155-182							
PUS23_HCMVA	EARLY NUCLEAR PROTEIN HWLF1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	270-292								
PUS24_HCMVA	HYPOTHETICAL PROTEIN HQLF7	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	292-318								
PUS28_HCMVA	HYPOTHETICAL PROTEIN HRLF6	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	352-375								
PUS28_HCMVT	G-PROTEIN COUPLED REC HOMOLOG US28	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	34-49	148-160							
PUS28_HSVEK	G-PROTEIN COUPLED REC HOMOLOG US28	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	34-49	148-160							
PUS29_HCMVA	HYPOTHETICAL PROTEIN HRUF4	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	246-269								
PUS30_HCMVA	HYPOTHETICAL PROTEIN HQLF5	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	102-126	208-233							
PUS33_HCMVA	HYPOTHETICAL PROTEIN HRLF3	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	41-59								
PV07K_LSV	7 KD PROTEIN	LILY SYMPTOMLESS VIRUS	27-46								
PV07K_MNV	7 KD PROTEIN	POTATO VIRUS S (STRAIN PERUVIAN)	28-49								
PV07K_PVSP	7 KD PROTEIN	POTATO VIRUS X (PVX)	31-48								
PV07K_PVX	7 KD PROTEIN	POTATO VIRUS X (STRAIN XJ)	31-48								
PV07K_PVXCS	7 KD PROTEIN	POTATO VIRUS X (STRAIN XC) (STRAIN CP)	31-48								
PV11T_ASFL3	LIB 131-1 PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN LISSY)	73-94								
PV12K_ASFL3	12S KD PROTEIN	ALFALFA MOSAIC VIRUS (STRAIN 425 / ISOLATE LEIDEN)	59-79								
PV13K_PVMR	13 KD PROTEIN	POTATO VIRUS M (STRAIN RUSSIAN)	79-96								
PV13K_TRVPL	16 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN PLB)	24-51								
PV143_NPVAC	HELICASE	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	79-102	846-863	1013-1037						
PV18K_BSMV	14 KD PROTEIN	BARLEY STRIPE MOSAIC VIRUS (BSMV)	14-29	80-99							
PV18K_MLVAB	18 KD PROTEIN	ABELSON MURINE LEUKEMIA VIRUS	29-44	128-150							
PV19K_VACCV	PROTEIN B19	VACCINIA VIRUS (STRAIN WR)	114-132	152-172							
PV1A_BBMV	1A PROTEIN	BROAD BEAN MOTTLE VIRUS	196-220	732-771							
PV1A_BMV	1A PROTEIN	BROME MOSAIC VIRUS	747-769								
PV1A_CCMV	1A PROTEIN	COWPEA CHLOROTIC MOTTLE VIRUS	744-765								
PV1A_CMVFN	1A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN FNY)	775-800								
PV1A_CMVO	1A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN O)	775-800								
PV1A_CMVQ	1A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN Q)	774-799								
PV1A_PSV	1A PROTEIN	PEANUT STUNT VIRUS (STRAIN P)	472-493	783-808							
PV1UK_HSVTH	35.5 KD PROTEIN	TURKEY HERPESVIRUS (STRAIN HI)	176-191								
PV20K_PLRVI	20 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN I) (	60-76	192-207							
PV20K_PLRVW	20 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN)	60-76	192-207							
PV29K_BWYVF	29 KD PROTEIN	BEET WESTERN YELLOWS VIRUS (ISOLATE FL-1)	22-43	136-157							
PV29K_PEBV	29.6 KD PROTEIN	PEA EARLY BROWNING VIRUS	114-133								
PV3A_BMV	3A PROTEIN	BROME MOSAIC VIRUS	285-309	759-777							

PCGENE	PIRCTL2.IP	All Viruses (No Bacteriophage)										
FILE NAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9	AREA10
PV1A_CQMV	3A PROTEIN	COWPEA CHLOROTIC MOTTLE VIRUS	296-314									
PV1A_TAV	3A PROTEIN	TOMATO ASPERMY VIRUS	214-233									
PV1B_TRVTC	29 1 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN TCM)	61-82									
PV1B_TOBSV	29 1 KD PROTEIN	TOBACCO STREAK VIRUS (STRAIN WC)	326-350									
PV1G1_ASFB1	K'363 PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	145-164									
PV1I1_ASFL5	L18 331 PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN L60)	114-135									
PV1I2_ASFL5	L18 331 PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN L60)	114-135									
PV1A_CQMV	COWPEA CHLOROTIC MOTTLE VIRUS		160-187									
PV1A_CHVPN	3A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN FNY)	214-233									
PV1A_CHVPM	3A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN M)	214-233									
PV1A_CHVPO	3A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN O)	214-233									
PV1A_CHVPQ	3A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN Q)	214-233									
PV1A_CHVY	CUCUMBER MOSAIC VIRUS (STRAIN Y)		214-233									
PV1A_BYV	3A PROTEIN	AYIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	5-28									
PV1A_BVM	3A PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN M41)	5-28									
PV1A_BVP3	3A PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN PORTUGAL/3120/3)	5-28									
PV1A_BVUS	3A PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN US/1B/1968)	5-28									
PV1A_TAV	3A PROTEIN	TOMATO ASPERMY VIRUS	167-186									
PV1B1_BSMV	38 KD PROTEIN	BARLEY STRIPE MOSAIC VIRUS	330-340									
PV4A1_BWYV1	PROTEIN 4B	CANINE ENTERIC CORONAVIRUS (STRAIN K378)	97-116									
PV4A9_TYMV1	69 KD PROTEIN	TURNIP YELLOW MOSAIC VIRUS (AUSTRALIAN ISOLATE)	13-35									
PV4B1_AMVLE	90 KD PROTEIN	ALFALFA MOSAIC VIRUS (STRAIN 425 / ISOLATE LEIDEN)	44-59									
PV4A1_VACCC	PROTEIN A4	VACCINIA VIRUS (STRAIN COPENHAGEN)	211-244									
PV4A1_VACCV	PROTEIN A4	VACCINIA VIRUS (STRAIN WR)	211-244									
PV4A1_VARV	PROTEIN A4	VARIOLA VIRUS	207-234									
PV4A9_VACCC	PROTEIN A9	VACCINIA VIRUS (STRAIN COPENHAGEN)	41-66									
PV4A9_VARV	PROTEIN A9	VARIOLA VIRUS	41-66									
PV4I1_VACCC	PROTEIN A11	VACCINIA VIRUS (STRAIN COPENHAGEN)	33-44	106-139	299-317							
PV4I1_VARV	PROTEIN A11	VARIOLA VIRUS	33-44	101-140	100-318							
PV4I2_VACCC	PROTEIN A14	VACCINIA VIRUS (STRAIN COPENHAGEN)	39-63									
PV4I2_VARV	PROTEIN A14	VARIOLA VIRUS	39-63									
PV4I6_VACCC	PROTEIN A16	VACCINIA VIRUS (STRAIN COPENHAGEN)	341-362									
PV4I6_VARV	PROTEIN A16	VARIOLA VIRUS	340-361									
PV4I8_VACCC	14 KD ADDITIVE LATE PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	429-447									
PV4I8_VACCV	14 KD ADDITIVE LATE PROTEIN	VACCINIA VIRUS (STRAIN WR)	429-447									
PV4I8_VARV	14 KD ADDITIVE LATE PROTEIN	VARIOLA VIRUS	429-447									
PV4J0_VACCC	PROTEIN A30	VACCINIA VIRUS (STRAIN COPENHAGEN)	107-131	193-209								
PV4J0_VARV	PROTEIN A30	VARIOLA VIRUS	107-131	193-209								
PV4J3_VARV	PROTEIN A33	VARIOLA VIRUS	58-82									
PV4J8_VACCV	PROTEIN A38	VACCINIA VIRUS (STRAIN WR), AND (STRAIN COPENHAGEN)	33-76									
PV4J8_VARV	PROTEIN A38	VARIOLA VIRUS	33-76									
PV4J1_VACCV	PROTEIN A31	VACCINIA VIRUS (STRAIN WR), AND (STRAIN COPENHAGEN)	205-228									
PV4J1_VARV	PROTEIN A31	VARIOLA VIRUS	175-198									
PV4J3_VACCC	PROTEIN A33 PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	33-49									
PV4J3_VACCV	PROTEIN A33 PRECURSOR	VACCINIA VIRUS (STRAIN WR)	33-49	141-164								
PV4J7_VACCC	PROTEIN A37	VACCINIA VIRUS (STRAIN COPENHAGEN)	66-90									
PV4J7_VACCV	PROTEIN A37	VACCINIA VIRUS (STRAIN WR)	66-90									
PV4A6_VACCC	PROTEIN A46	VACCINIA VIRUS (STRAIN COPENHAGEN)	4-30									
PV4A1_VACCC	PROTEIN A41 PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	47-71									
PV4A1_VACCV	PROTEIN A41 PRECURSOR	VACCINIA VIRUS (STRAIN WR)	47-71									
PV4A1_VARV	PROTEIN A41 PRECURSOR	VARIOLA VIRUS	47-71									
PV4A7_VACCC	PROTEIN A47	VACCINIA VIRUS (STRAIN COPENHAGEN)	59-79	281-316								
PV4A7_VACCV	PROTEIN A47	VACCINIA VIRUS (STRAIN WR)	59-79	281-316								
PV4A7_VARV	PROTEIN A47	VARIOLA VIRUS	59-79	281-316								
PV4J5_VACCC	PROTEIN A35	VACCINIA VIRUS (STRAIN COPENHAGEN)	247-266	384-404								
PV4J5_VACCV	PROTEIN A35	VACCINIA VIRUS (STRAIN WR)	247-266	384-404								
PV4L1_BCTV	ALT PROTEIN	BEET CURLY TOP VIRUS	56-75									

PCGENE	FUNCTION	All Viruses (No Bacteriophage)	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1
FULLNAME	PROTEIN	VIRUS									
PVAL1_CLVK	ALI PROTEIN	CASSAVA LATENT VIRUS (STRAIN WEST KENYAN 844)	35-74								
PVAL1_CLVN	ALI PROTEIN	CASSAVA LATENT VIRUS (STRAIN NIGERIAN)	35-74								
PVAL1_BCTV	ALI PROTEIN	BEET CURLY TOP VIRUS	82-108								
PVAL1_CLVK	ALI PROTEIN	CASSAVA LATENT VIRUS (STRAIN WEST KENYAN 844)	77-97								
PVAL1_CLVN	ALI PROTEIN	CASSAVA LATENT VIRUS (STRAIN NIGERIAN)	77-97								
PVAL1_TYLCV	ALI PROTEIN	TOMATO YELLOW LEAF CURL VIRUS (STRAIN MAKHANDE)	78-97								
PVAT_CAMVC	APHID TRANSMISSION PROTEIN	TOMATO YELLOW LEAF CURL VIRUS	77-97								
PVAT_CAMVD	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	134-157								
PVAT_CAMVA	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN DPH)	134-157								
PVAT_CAMVH	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN BRC)	134-157								
PVAT_CAMVS	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY8153)	134-157								
PVAT_CAMVV	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN PV147)	134-157								
PVAT_CAMVW	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN STRASBOURG)	134-157								
PVAT_CESV	APHID TRANSMISSION PROTEIN	CARNATION ETCHED RING VIRUS	34-60								
PVB01_PAVB	APHID TRANSMISSION PROTEIN	FIGWORT MOSAIC VIRUS (STRAIN DXS)	141-161								
PVB02_VACCC	PROTEIN B2	VACCINIA VIRUS (STRAIN COPENHAGEN)	133-159								
PVB03_VACCV	PROTEIN B3	VACCINIA VIRUS (STRAIN WR)	135-170								
PVB04_VACCC	PROTEIN B4	VACCINIA VIRUS (STRAIN COPENHAGEN)									
PVB04_VACCV	PROTEIN B4	VACCINIA VIRUS (STRAIN WR)	406-311								
PVB05_VACCO	PLAQUE SIZE / HOST RANGE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN LC16M0)	406-311								
PVB05_VACCC	PLAQUE SIZE / HOST RANGE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	231-271								
PVB05_VACCL	PLAQUE SIZE / HOST RANGE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN LISTER)	231-271								
PVB05_VACCV	PLAQUE SIZE / HOST RANGE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN WR)	231-271								
PVB06_VACCV	PROTEIN B6	VACCINIA VIRUS (STRAIN WR), AND (STRAIN COPENHAGEN)	59-83								
PVB13_VACCC	PROTEIN B13	VACCINIA VIRUS (STRAIN COPENHAGEN)	131-143								
PVB13_VACCV	PROTEIN B13	VACCINIA VIRUS (STRAIN WR)	131-143								
PVB14_VAAV	PROTEIN B14	VARIOLA VIRUS	131-143								
PVB17_VACCC	PROTEIN B17	VACCINIA VIRUS (STRAIN COPENHAGEN)	137-179								
PVB17_VACCV	PROTEIN B17	VACCINIA VIRUS (STRAIN WR)									
PVB21_CLVK	BL1 PROTEIN	CASSAVA LATENT VIRUS (STRAIN WEST KENYAN 844)	34-51								
PVB21_CLVN	BL1 PROTEIN	CASSAVA LATENT VIRUS (STRAIN NIGERIAN)	34-51								
PVB21_ABMVW	BR1 PROTEIN	SQUASH LEAF CURL VIRUS	249-268								
PVB21_BGMV	BR1 PROTEIN	ABUTILON MOSAIC VIRUS (ISOLATE WEST INDIA)	166-191								
PVB21_PVMV	BR1 PROTEIN	BEAN GOLDEN MOSAIC VIRUS	166-191								
PVB21_SLCV	BR1 PROTEIN	POTATO YELLOW MOSAIC VIRUS (ISOLATE VENEZUELA)	166-191								
PVC01_VACCC	PROTEIN C1	SQUASH LEAF CURL VIRUS	193-218								
PVC01_VACCV	PROTEIN C1	VACCINIA VIRUS (STRAIN COPENHAGEN)	78-90								
PVC01_VAAV	PROTEIN C1	VACCINIA VIRUS (STRAIN WR)	15-55								
PVC02_SFVKA	HYPOTHETICAL PROTEIN C2	VARIOLA VIRUS	16-78								
PVC03_SFVKA	C-PROTEIN COUPLED RECEPTOR HOMOLOG C3	SHOPE FIBROMA VIRUS (STRAIN KASZA)	8-31								
PVC04_VACCC	PROTEIN C4	SHOPE FIBROMA VIRUS (STRAIN KASZA)	96-123	178-197							
PVC04_VACCV	PROTEIN C4	VACCINIA VIRUS (STRAIN COPENHAGEN)	182-209								
PVC06_SFVKA	HYPOTHETICAL PROTEIN C6	VACCINIA VIRUS (STRAIN WR)	180-208								
PVC08_SFVKA	HYPOTHETICAL PROTEIN C8	SHOPE FIBROMA VIRUS (STRAIN KASZA)	20-47								
PVC09_VACCC	PROTEIN C9	SHOPE FIBROMA VIRUS (STRAIN KASZA)	14-30								
PVC09_VACCV	PROTEIN C9	VACCINIA VIRUS (STRAIN COPENHAGEN)	40-59								
PVC10_SFVKA	HYPOTHETICAL PROTEIN C10	VACCINIA VIRUS (STRAIN WR)	40-59								
PVC10_VACCC	PROTEIN C10	SHOPE FIBROMA VIRUS (STRAIN KASZA)	83-109								
PVC10_VACCV	PROTEIN C10	VACCINIA VIRUS (STRAIN COPENHAGEN)	42-64								
PVC10_VAAV	PROTEIN C10	VACCINIA VIRUS (STRAIN WR)	42-64								
PVC11_VACCC	PROTEIN C11/B22	VARIOLA VIRUS	42-64								
PVC11_VACCE	PROTEIN C11/B22	VACCINIA VIRUS (STRAIN COPENHAGEN)	41-48								
PVC11_VACCV	PROTEIN C11/B22	VACCINIA VIRUS (STRAIN COPENHAGEN)	301-326								
PVCA_EBV	MAJOR CAPSID PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	3-38								
		EPSTEIN-BARR VIRUS (STRAIN B95-8)	148-172	166-181	1012-1095						

PCGENE	PIR:CLIP	All Viruses (No Bacteriophage)										
FILE NAME	CROTEIN	VIRUS	AREA1	AREA1	AREA1	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7
PVCAP_HCMVA	MAJOR CAPSID PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN ADIO)	644-664	841-860	871-893							
PVCAP_HSV1	MAJOR CAPSID PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	283-303	350-384	1137-1152							
PVCAP_HSV2B	MAJOR CAPSID PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AUSY)	337-383	372-398								
PVCAP_HSV2A	MAJOR CAPSID PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	144-168	269-287	337-372	1062-1089						
PVCAP_HSV1	MAJOR CAPSID PROTEIN	PSEUDORABIES VIRUS (STRAIN INDIANA S)	335-363									
PVCAP_VZVD	MAJOR CAPSID PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	381-401	891-910	1136-1176							
PVCD1_MPVAC	DNA-BINDING PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	60-81									
PVD01_VACCC	PROTEIN D1	VACCINIA VIRUS (STRAIN COPENHAGEN)	12-39									
PVD01_VACCV	PROTEIN D1	VACCINIA VIRUS (STRAIN WR)	12-39									
PVD01_VARV	PROTEIN D1	VARIOLA VIRUS	12-39									
PVD01_TOWPT	61.6 KD PROTEIN	FOWLPOX VIRUS (STRAIN FP-1)	244-265	313-337								
PVD01_SFVLA	PROTEIN D1	SHOPE FIBROMA VIRUS (STRAIN KASZA)	54-78	171-198								
PVD01_VACCC	PROTEIN D1	VACCINIA VIRUS (STRAIN COPENHAGEN)	128-140	694-714	715-734							
PVD01_VACCV	PROTEIN D1	VACCINIA VIRUS (STRAIN WR)	128-140	694-714	715-734							
PVD01_VARV	PROTEIN D1	VARIOLA VIRUS	128-140	694-714	715-734							
PVD0F_CAUVC	DNA-BINDING PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	37-56	335-350	540-558							
PVD0F_CAUVD	DNA-BINDING PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D/I)	37-56	76-97	335-350	540-558						
PVD0F_CAUVE	DNA-BINDING PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN DRC)	37-56	76-97	335-350	540-558						
PVD0F_CAUVN	DNA-BINDING PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN DABEN I)	37-56	76-97	335-350	540-558						
PVD0F_CAUVS	DNA-BINDING PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN STRASBOURG)	37-56	76-97								
PVE02_VACCC	PROTEIN E2	VACCINIA VIRUS (STRAIN COPENHAGEN)	37-56	76-97	335-350	540-558						
PVE02_VACCV	PROTEIN E2	VACCINIA VIRUS (STRAIN WR)	37-56	76-97	335-350	540-558						
PVE02_VARV	PROTEIN E2	VARIOLA VIRUS	37-56	76-97	335-350	540-558						
PVE05_VACCC	PROTEIN E5	VACCINIA VIRUS (STRAIN COPENHAGEN)	314-329	334-339								
PVE05_VACCD	PROTEIN E5	VACCINIA VIRUS (STRAIN DARDEN I)	314-329	334-339								
PVE05_VACCV	PROTEIN E5	VARIOLA VIRUS	314-329	334-339								
PVE06_VACCC	PROTEIN E6	VACCINIA VIRUS (STRAIN COPENHAGEN)	410-431	434-451								
PVE06_VACCV	PROTEIN E6	VACCINIA VIRUS (STRAIN WR)	410-431	434-451								
PVE06_VARV	PROTEIN E6	VARIOLA VIRUS	410-431	434-451								
PVE08_VACCC	PROTEIN E8	VACCINIA VIRUS (STRAIN COPENHAGEN)	331-347	410-431								
PVE08_VACCV	PROTEIN E8	VACCINIA VIRUS (STRAIN WR)	334-370	394-410								
PVE08_VARV	PROTEIN E8	VARIOLA VIRUS	334-370	394-410								
PVE11_MPVSI	PROBABLE E1 PROTEIN 3	HUMAN PAPILLOMAVIRUS TYPE 18	334-370									
PVE11_MPVAC	EARLY 18.3 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	167-183									
PVE1_BPV1	E1 PROTEIN	BOVINE PAPILLOMAVIRUS TYPE 1	106-133									
PVE1_BPV2	E1 PROTEIN	BOVINE PAPILLOMAVIRUS TYPE 2	265-283	511-535								
PVE1_COPVK	E1 PROTEIN	COTTONTAIL RABBIT (SHOPE) PAPILLOMAVIRUS (STRAIN KANSAS)	265-281	514-532								
PVE1_HPV11	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	7-22									
PVE1_HPV13	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 13	258-275	311-324								
PVE1_HPV16	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	266-284	306-324								
PVE1_HPV31	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31	264-281	313-333	344-364							
PVE1_HPV33	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	277-294									
PVE1_HPV35	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 35	278-296									
PVE1_HPV39	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 39	114-134									
PVE1_HPV41	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	163-180									
PVE1_HPV42	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 42	264-280									
PVE1_HPV45	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 45	238-260									
PVE1_HPV6B	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6B	238-275	311-334								
PVE1_HPV1	E1 PROTEIN	PYGMY CHIMPANZEE PAPILLOMAVIRUS TYPE 1	311-334	110-136								
PVE1_RHPV1	E1 PROTEIN	RHESUS PAPILLOMAVIRUS TYPE 1	265-309									
PVE2_COPVK	PROBABLE E2 PROTEIN	COTTONTAIL RABBIT (SHOPE) PAPILLOMAVIRUS (STRAIN KANSAS)	300-333									
PVE3_HPV11	E3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	285-310									
PVE3_HPV13	E3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 13	295-320									
PVE3_HPV16	E3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	288-306									
PVE3_HPV18	E3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 18	284-309									
PVE3_HPV6A	E3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6A	311-338									
PVE3_HPV31	E3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31	294-313									

GENE	FUNCTION	All Viruses (No Bacteriophages)									
TRANSNAME	PROTEIN	VIRUS	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA2
PVE1_HPV33	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	375-793								
PVE1_HPV31	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31	376-803								
PVE1_HPV35	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 35	392-810								
PVE1_HPV52	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 52	381-830								
PVE1_HPV58	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	387-836								
PVE1_HPV45	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 45	386-831								
PVE1_PAPVD	PROBABLE E1 PROTEIN	DEER PAPILLOMAVIRUS	333-781								
PVE1_PCPVI	E1 PROTEIN	PYGMY CHIMPANZEE PAPILLOMAVIRUS TYPE 1	391-780								
PVE1_RHPVI	E1 PROTEIN	RHESUS PAPILLOMAVIRUS TYPE 1	390-838								
PVE1_HPV18	PROBABLE E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 18	390-839								
PVE1_HPV11	PROBABLE E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	56-76								
PVE1_HPV11	PROBABLE E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	59-83								
PVE1A_HPV11	PROBABLE E1A PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	63-87								
PVE1A_HPV6B	PROBABLE E1A PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	19-43								
PVE1_BPVI	E1 PROTEIN	BOVINE PAPILLOMAVIRUS TYPE 1, AND TYPE 2	19-43								
PVE1_HPV11	PROBABLE E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	2-26								
PVE1_HPV11	PROBABLE E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	19-42								
PVE1_HPV11	PROBABLE E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	11-53								
PVE1_HPV11	PROBABLE E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	45-83								
PVE1A_HPV16	PROBABLE E1A PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	37-53								
PVE1_HPV16	PROBABLE E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	19-43								
PVE1_BPVI	E1 PROTEIN	BOVINE PAPILLOMAVIRUS TYPE 1	106-133								
PVE6_CRPVX	E6 PROTEIN	COTTONTAIL RABBIT (SHOPE) PAPILLOMAVIRUS (STRAIN KANSAS)	33-61								
PVE6_HPV16	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	6-33								
PVE6_HPV16A	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16A	133-151								
PVE6_HPV33	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	8-27								
PVE6_HPV35	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 35	9-26								
PVE6_HPV31	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31	9-26								
PVE6_HPV18	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 18	9-26								
PVE6_HPV52	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 52	8-27								
PVE6_HPV58	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	9-26								
PVE7_CRPVX	E7 PROTEIN	COTTONTAIL RABBIT (SHOPE) PAPILLOMAVIRUS (STRAIN KANSAS)	7-33	34-60							
PVE7_HPV33	E7 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	11-48								
PVE7_HPV16	E7 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	11-63								
PVE7_HPV16	E7 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	61-87								
PVE7_HPV6B	E7 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6B	26-37								
PVE7_HPV6AC	E7 PROTEIN	RHESUS PAPILLOMAVIRUS TYPE 1	19-109								
PVEV_GVIN	EARLY M 42 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	78-99	203-222							
PVEN_BEV	VIRAL ENHANCING FACTOR	TRICHOPLUSIA NI GRANULOSIS VIRUS	134-175	237-260	677-696						
PVEN_DMVII	ENVELOPE PROTEIN	BEAN VIRUS	62-86	87-114							
PVEN_EAV	PROBABLE ENVELOPE GLYCOPROTEIN PRECURSOR	DHORI VIRUS (STRAIN INDIAN/1313/61)	43-67	484-511							
PVEN_LDEV	PROBABLE ENVELOPE PROTEIN	EQUINE ARTERITIS VIRUS	23-41								
PVEN_MCV2	MAJOR ENVELOPE PROTEIN	LELYSTAD VIRUS	37-67	118-168							
PVEN_MCV2	MAJOR ENVELOPE PROTEIN	MOLLUSCUM CONTAGIOSUM VIRUS SUBTYPE 1	61-80								
PVEN_TNDOV	ENVELOPE GLYCOPROTEIN PRECURSOR	MOLLUSCUM CONTAGIOSUM VIRUS SUBTYPE 2	61-80	306-333							
PVETA_HPVAC	ECOLI T SITE PROTEIN ETH	THOGOTO VIRUS	196-211	156-333	677-691						
PVF6_VACCC	14 KD MAJOR MEMBRANE PROTEIN PRECURSOR	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	82-103								
PVF6I_VACCC	14 KD MAJOR MEMBRANE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	186-201								
PVF6I_VACCV	14 KD MAJOR MEMBRANE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN L-IVP)	186-201								
PVF6I_VAIV	14 KD MAJOR MEMBRANE PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN WR)	186-201								
PVF8_VACCC	PROTEIN F8	VARIOLA VIRUS	211-306								
PVF8_VACCC	PROTEIN F8	VACCINIA VIRUS (STRAIN COPENHAGEN), AND (STRAIN L-IVP)	176-205								
PVF8_VACCV	PROTEIN F8	VACCINIA VIRUS (STRAIN WR)	176-205								
PVF8_VAIV	PROTEIN F8	VARIOLA VIRUS	176-205								
PVF11_VACCC	PROTEIN F11	VACCINIA VIRUS (STRAIN COPENHAGEN)	161-184								
PVF11_VAIV	PROTEIN F11	VARIOLA VIRUS	161-184								
PVF15_VACCC	PROTEIN F15	VACCINIA VIRUS (STRAIN COPENHAGEN)	15-40								

ACCESSION	DESCRIPTION	All Viruses (No Bacteriophage)									
FILENAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PVF1_VACCP	PROTEIN F13	VACCINIA VIRUS (STRAIN L-IVP)	3-26								
PVF13_VAV	PROTEIN F13	VARIOLA VIRUS	28-51	1	-						
PVF9_I0WPV	PROTEIN F9	FOWLPOX VIRUS	297-323								
PVF9_I0WPV	PROTEIN F9	FOWLPOX VIRUS	88-104								
PVF11_CAPVK	PROTEIN F1	CAPRIPOXVIRUS (STRAIN KS-1)	88-111								
PVF1_I0WPV	PROTEIN F1	FOWLPOX VIRUS	63-90								
PVF14_CAPVK	ATI A PROTEIN	CAPRIPOXVIRUS (STRAIN KS-1)	51-76								
PVFU8_ORFN2	10 KD FUSION PROTEIN	ORF VIRUS (STRAIN NZ2)	28-48								
PVFU8_VACCS	14 KD FUSION PROTEIN	VACCINIA VIRUS (STRAIN WR 65-16)	72-94								
PVG04_HSV8	HYPOTHETICAL GENE 1 PROTEIN	EQUINE HERPESVIRUS 1 TYPE 1 (STRAIN AB4P)	146-184								
PVG04_HSV1	HYPOTHETICAL GENE 1 PROTEIN	ICTALURID HERPESVIRUS 1	210-235	311-339	369-416	1					
PVG04_VACCE	PROTEIN G1	VACCINIA VIRUS (STRAIN COPENHAGEN)	206-218	276-293							
PVG01_VACCV	PROTEIN G1	VACCINIA VIRUS (STRAIN WR)	235-257	315-334							
PVG01_VAV	PROTEIN G1	VARIOLA VIRUS	296-318	376-393							
PVG01_VZVD	JIYPOTHETICAL GENE 1 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	38-61								
PVG01_VACCC	PROTEIN G1	VACCINIA VIRUS (STRAIN COPENHAGEN)	56-77								
PVG04_VAV	PROTEIN G4	VARIOLA VIRUS	56-77								
PVG04_VACCC	PROTEIN G4	VACCINIA VIRUS (STRAIN COPENHAGEN)	11-33								
PVG04_VAV	PROTEIN G4	VARIOLA VIRUS	11-33								
PVG04_VACCC	PROTEIN G4	VACCINIA VIRUS (STRAIN COPENHAGEN)	31-51								
PVG04_VAV	PROTEIN G4	VARIOLA VIRUS	31-51								
PVG04_HSV1	HYPOTHETICAL GENE 1 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1	134-168	158-181							
PVG10_HSV1	HYPOTHETICAL GENE 10 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1	35-54								
PVG10_HSV1A	HYPOTHETICAL GENE 10 MEMBRANE PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	106-124	135-159							
PVG11_HSV1	HYPOTHETICAL GENE 11 ZINC-BINDING PROTEIN	ICTALURID HERPESVIRUS 1	101-123	150-176							
PVG11_HSV1	HYPOTHETICAL GENE 11 ZINC-BINDING PROTEIN	ICTALURID HERPESVIRUS 1	131-178	276-286							
PVG11_HSV1A	HYPOTHETICAL GENE 11 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	43-92								
PVG10_HSV1	HYPOTHETICAL GENE 10 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1	88-112								
PVG11_ADEVV	CAPSID PROTEIN	ADENOVIRUS TYPE 2 (STRAIN BROOKE)	113-136								
PVG1_SPV1A	CAPSID PROTEIN	SPHEROPLASMA VIRUS SPV1-ARIZ 1 B	16-32	619-638							
PVG03_HSV1	HYPOTHETICAL GENE 33 PROTEIN	ICTALURID HERPESVIRUS 1	308-327								
PVG03_HSV1	HYPOTHETICAL GENE 33 PROTEIN	ICTALURID HERPESVIRUS 1	314-335								
PVG03_HSV1	HYPOTHETICAL GENE 33 PROTEIN	ICTALURID HERPESVIRUS 1	138-164								
PVG03_HSV1A	HYPOTHETICAL GENE 33 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	290-298								
PVG03_HSV1	HYPOTHETICAL GENE 33 PROTEIN	ICTALURID HERPESVIRUS 1	172-197	491-518							
PVG03_HSV1A	HYPOTHETICAL GENE 33 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	14-46								
PVG09_HSV1	HYPOTHETICAL GENE 39 PROTEIN	ICTALURID HERPESVIRUS 1	28-42								
PVG04_HSV8	HYPOTHETICAL GENE 56 PROTEIN	ICTALURID HERPESVIRUS 1	166-191								
PVG01_VZVD	GENE 33 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	90-109								
PVG04_HSV1A	POSSIBLE TYROSINE-PROTEIN KINASE	HERPESVIRUS SAIMIRI (STRAIN 11)	108-123	344-362							
PVG01_HSV1	HYPOTHETICAL GENE 33 PROTEIN	ICTALURID HERPESVIRUS 1	284-299								
PVG09_HSV1	HYPOTHETICAL GENE 39 PROTEIN	ICTALURID HERPESVIRUS 1	648-675	970-990	1018-1063						
PVG06_HSV1	HYPOTHETICAL GENE 46 PROTEIN	ICTALURID HERPESVIRUS 1	14-32								
PVG01_HSV1	HYPOTHETICAL GENE 41 PROTEIN	ICTALURID HERPESVIRUS 1	11-38	62-81	244-260						
PVG04_HSV1	HYPOTHETICAL GENE 41 PROTEIN	ICTALURID HERPESVIRUS 1	109-133	137-178	222-245	525-538					
PVG04_HSV1	PROBABLE MAJOR GLYCOPROTEIN	ICTALURID HERPESVIRUS 1	134-154	180-407	977-963	1244-1270					
PVG08_HSV1	HYPOTHETICAL GENE 48 PROTEIN	ICTALURID HERPESVIRUS 1	71-93								
PVG08_HSV1A	PROB TRANSCRIPTION ACTIVATOR EB2/1	HERPESVIRUS SAIMIRI (STRAIN 11)	5-30	58-83							
PVG01_HSV1	HYP GENE 51 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1	29-49	84-102							
PVG01_HSV1	HYPOTHETICAL GENE 53 PROTEIN	ICTALURID HERPESVIRUS 1	226-252								
PVG01_HSV1	HYPOTHETICAL GENE 53 PROTEIN	ICTALURID HERPESVIRUS 1	22-37	143-158	288-309						
PVG01_HSV1A	HYPOTHETICAL GENE 53 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	85-100								
PVG04_HSV1	HYPOTHETICAL GENE 56 PROTEIN	ICTALURID HERPESVIRUS 1	1135-1176								
PVG01_HSV1A	GENE 53 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	138-166	266-288	293-319	330-346					
PVG09_HSV1	HYP GENE 59 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1	142-161	267-289							
PVG1_SPV1	GENE 1 PROTEIN	SPIROPLASMA VIRUS 1	42-64								
PVG06_HSV1	HYPOTHETICAL GENE 66 PROTEIN	ICTALURID HERPESVIRUS 1	16-31	33-53							

PCGENE	PIRCTLZIP	All Viruses (No Bacteriophages)									
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVG61_HSV11	HYPOTHETICAL GENE 61 PROTEIN	ICTALURID HERPESVIRUS 1	76-102	117-136							
PVG63_HSV11	HYPOTHETICAL GENE 63 PROTEIN	ICTALURID HERPESVIRUS 1	238-259	336-363							
PVG64_HSV11	HYPOTHETICAL GENE 64 PROTEIN	ICTALURID HERPESVIRUS 1	420-445								
PVG65_HSV11	HYPOTHETICAL GENE 65 PROTEIN	ICTALURID HERPESVIRUS 1	117-137	155-173	362-378	518-533	1147-1174	1347-1369			
PVG67_HSV11	HYPOTHETICAL GENE 67 PROTEIN	ICTALURID HERPESVIRUS 1	108-132	171-188	318-344	722-745	1005-1029	1072-1091	1315-1341		
PVG6_SPVIR	GENE 6 PROTEIN	SPIROPLASMA VIRUS SPVI-R8A2 B	60-82								
PVG70_HSV11	HYPOTHETICAL GENE 70 PROTEIN	ICTALURID HERPESVIRUS 1	184-209								
PVG71_HSV1A	HYPOTHETICAL GENE 71 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	89-105								
PVG72_HSV11	HYPOTHETICAL GENE 72 PROTEIN	ICTALURID HERPESVIRUS 1	445-471	535-561	720-744	1252-1269					
PVG74_HSV1A	G-PROTEIN COUPLED REC HOMOLOG ECRF3	HERPESVIRUS SAIMIRI (STRAIN 11)	124-151								
PVG9_SPVIR	GENE 9 PROTEIN	SPIROPLASMA VIRUS SPVI-R8A2 B	57-72								
PVGP1_IBVB	P1 PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	1587-1606	1856-1877	2108-2127	2210-2226	2788-2806	2973-2999	3073-3090	3120-3145	3374-3399
			3601-3625								
PVGH0_HCMVA	GLYCOPROTEIN H501 PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	157-178								
PVGL1_CVPRI	E1 GLYCOPROTEIN PRECURSOR	PORCINE RESPIRATORY CORONAVIRUS (STRAIN 86/137004/BRITISH15	174-193								
PVGL3_CVBF	E3 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN F15)	10-33	123-139	174-190	264-279	991-1017	1259-1280			
PVGL3_CVBL9	E3 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN L9)	123-139	174-190	264-279	651-674	991-1017	1259-1280			
PVGL3_CVBLY	E3 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN LY-138)	10-33	123-139	174-190	264-279	991-1017	1259-1280			
PVGL3_CVBM	E3 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN MEBUS)	123-139	174-190	264-279	991-1017	1259-1280				
PVGL3_CVBQ	E3 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN QUEBEC)	31-47	123-139	174-190	264-279	991-1017	1259-1280			
PVGL3_CVBV	E3 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN VACCINE)	123-139	174-190	264-279	991-1017	1259-1280				
PVGL3_CVHE2	E3 GLYCOPROTEIN PRECURSOR	HUMAN CORONAVIRUS (STRAIN 229E)	768-794	1053-1071	1115-1134						
PVGL3_CVM4	E3 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN WILD TYPE 4)	95-111	999-1025	1267-1290	1317-1338					
PVGL3_CVMA5	E3 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN A59)	95-111	947-973	1215-1238	1265-1286					
PVGL3_CVMJC	E3 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN JHMV / VARIANT CL-2)	95-111	999-1025	1267-1290	1317-1338					
PVGL3_CVMJH	E3 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN JHM)	95-111	858-884	1126-1149	1176-1197					
PVGL3_CVPF8	E3 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAI	64-83	442-457	800-816	1038-1064	1274-1297				
PVGL3_CVPM	E3 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAI	64-83	442-457	506-521	800-816	1038-1064	1274-1297			
PVGL3_CVPPR	E3 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAI	64-83	440-455	504-519	798-814	1036-1062	1272-1295			
PVGL3_CVPPU	E3 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAI	64-83	440-455	504-519	798-814	1036-1062	1272-1295			
PVGL3_CVPR8	E2 GLYCOPROTEIN PRECURSOR	PORCINE RESPIRATORY CORONAVIRUS (STRAIN 86/137004 / BRITISH1	218-233	576-592	814-840	1050-1073					
PVGL3_CVPRM	E3 GLYCOPROTEIN PRECURSOR	PORCINE RESPIRATORY CORONAVIRUS (STRAIN RM4)	218-233	576-592	814-840	1050-1073					
PVGL3_CVPRT	E3 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAI	64-83	440-455	504-519	798-814	1036-1062	1272-1295			
PVGL3_FIPV	E3 GLYCOPROTEIN PRECURSOR	FELINE INFECTIOUS PERITONITIS VIRUS (STRAIN 79-1146)	803-819	1041-1067	1277-1300						
PVGL3_IBV6	E3 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN 6/82)	196-219	588-607	771-797	1056-1081	1094-1111				
PVGL3_IBVB	E3 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	195-218	587-606	770-796	1055-1080					
PVGL3_IBVD2	E3 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN D274) (	196-219	588-607	771-797	1056-1081					
PVGL3_IBVD3	E3 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN D3896)	196-219								
PVGL3_IBVK	E3 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN KB8523)	195-218	587-606	770-796	1055-1080					
PVGL3_IBVM	E3 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN M41)	195-218	378-398	587-606	770-796	1055-1080				
PVGL3_IBVU1	E3 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN UK/123/82)	178-201								
PVGL3_IBVU2	E3 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN UK/142/86)	178-201								
PVGL3_IBVU3	E3 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN UK/167/84)	178-201								
PVGLB_EBV	GLYCOPROTEIN GP110 PRECURSOR	EPSTEIN-BARR VIRUS (STRAIN B95-8)	732-752								
PVGLB_HCMVA	GLYCOPROTEIN B PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	535-558	706-732	750-777						
PVGLB_HCMVT	GLYCOPROTEIN B PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	536-559	707-733	751-778						
PVGLB_HSV11	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	83-104								
PVGLB_HSV1F	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN F)	82-103								
PVGLB_HSV1K	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	82-103								
PVGLB_HSV1P	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN PATTON)	83-104								
PVGLB_HSV23	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN 333)	79-99								
PVGLB_HSV2H	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN HG52)	79-99								
PVGLB_HSV2S	GLYCOPROTEIN B PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN SAB)	65-85								
PVGLB_HSV6U	GLYCOPROTEIN B (FRAGMENT)	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	72-92	117-144							
PVGLB_HSVB1	GLYCOPROTEIN I PRECURSOR	BOVINE HERPESVIRUS TYPE 1	560-578	689-707							
PVGLB_HSVB2	GLYCOPROTEIN B-1 PRECURSOR	BOVINE HERPESVIRUS TYPE 2 (STRAIN BA5) (BOVINE MAMMILLITIS	279-299	745-767							
PVGLB_HSVBC	GLYCOPROTEIN I PRECURSOR	BOVINE HERPESVIRUS TYPE 1 (STRAIN COOPER)	692-710								

PCGENE	PIR:CTL2IP	All Viruses (No Bacteriophage)								
FILENAME	PROTEIN	VIRUS	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA2
PVOLI_HSV81	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (ISOLATE HVS2SA) (EHV-1)	736-753							
PVOLI_HSV82	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB1)	675-692							
PVOLI_HSV83	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB1)	736-753							
PVOLI_HSV84	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	736-753							
PVOLI_HSV85	GLYCOPROTEIN B PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY D)	736-753							
PVOLI_HSV86	GLYCOPROTEIN B PRECURSOR	MAREK'S DISEASE HERPESVIRUS (STRAIN RB-1B)	589-613							
PVOLI_HSV8A	GLYCOPROTEIN B PRECURSOR	HERPESVIRUS SAIMIRI (STRAIN 11)	683-706	584-602	701-716					
PVOLI_LTV8	GLYCOPROTEIN B PRECURSOR	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN 632)	256-275	597-621	740-758					
PVOLI_ILTV8	GLYCOPROTEIN B PRECURSOR	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN SA-2)	266-285	607-631	750-768					
PVOLI_ILTV7	GLYCOPROTEIN B PRECURSOR	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN THORNE V882)	266-285	607-631	750-768					
PVOLI_MCMV8	GLYCOPROTEIN B PRECURSOR	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	135-156	546-569	738-765					
PVOLI_PAV8	GLYCOPROTEIN GII PRECURSOR	PSEUDORABIES VIRUS (STRAIN INDIANA-FUNKHAUSER / BECKER)	203-218							
PVOLI_VZV5	GLYCOPROTEIN B PRECURSOR	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	522-538							
PVOLC_HSV11	GLYCOPROTEIN C PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	1-22	447-493						
PVOLC_HSV1K	GLYCOPROTEIN C PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	1-22	463-493						
PVOLC_HSV2	GLYCOPROTEIN C PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2)	433-458							
PVOLC_HSV2G	GLYCOPROTEIN C PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN G))	436-459							
PVOLC_HSV8C	GLYCOPROTEIN GIII PRECURSOR	BOVINE HERPESVIRUS TYPE 1 (STRAIN COOPER)	475-494							
PVOLC_HSV8A	GLYCOPROTEIN C PRECURSOR	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	444-459							
PVOLC_HSV8B	GLYCOPROTEIN C PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN ARH) AND (STRAIN KENTUCKY A)	437-442							
PVOLC_HSV8D	SECRETORY GLYCOPROTEIN GP57-45 PRECURSOR	MAREK'S DISEASE HERPESVIRUS (STRAIN HC-1)	399-421							
PVOLC_HSV8D	SECRETORY GLYCOPROTEIN GP57-45 PRECURSOR	MAREK'S DISEASE HERPESVIRUS (STRAIN RB-1B)	399-421							
PVOLC_HSV8O	SECRETORY GLYCOPROTEIN GP57-45 PRECURSOR	MAREK'S DISEASE HERPESVIRUS (STRAIN GA)	398-420							
PVOLC_HSV8O4	SECRETORY GLYCOPROTEIN GP57-45 PRECURSOR	MAREK'S DISEASE HERPESVIRUS (STRAIN MD5)	399-421							
PVOLC_PAV8	GLYCOPROTEIN GIII PRECURSOR	PSEUDORABIES VIRUS (STRAIN INDIANA-FUNKHAUSER / BECKER)	180-197	446-472						
PVOLC_VZV5	GLYCOPROTEIN GPV	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	411-449							
PVOLC_VZV8	GLYCOPROTEIN GPV	VARICELLA-ZOSTER VIRUS (STRAIN SCOTT)	411-449							
PVOLD_HSV11	GLYCOPROTEIN D PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17) AND (TYPE 1 / STRAIN	79-94							
PVOLD_HSV1	GLYCOPROTEIN D PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2)	79-94							
PVOLI_HSV11	GLYCOPROTEIN I PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	104-139	411-437						
PVOLI_VZV5	GLYCOPROTEIN I PRECURSOR	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	449-493							
PVOLF_BRSVA	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP A / STRAIN LO	265-281	385-399	484-506					
PVOLF_BRSVC	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A51908)	265-281	385-399	484-506					
PVOLF_BRSVK	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN COPENHAGEN)	265-281	385-399	484-506					
PVOLF_BRSVR	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN RB64)	265-281	385-399	484-506					
PVOLF_CDVO	FUSION GLYCOPROTEIN PRECURSOR	CANINE DISTEMPER VIRUS (STRAIN ONDERSTEPOORT)	336-341	398-414	502-519					
PVOLF_HRSV1	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN 18)	265-281	385-399	484-506					
PVOLF_HRSVA	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	265-281	385-399	484-506					
PVOLF_HRSVL	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP A / STRAIN LO	265-281	385-399	484-506					
PVOLF_HRSVR	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2-S-3)	265-281	385-399	484-506					
PVOLF_MEASE	FUSION GLYCOPROTEIN PRECURSOR	MEASLES VIRUS (STRAIN EDMONSTONpwd (STRAIN HALLE)	224-245	286-302	451-477					
PVOLF_MEASI	FUSION GLYCOPROTEIN PRECURSOR	MEASLES VIRUS (STRAIN IP-3-CA)	223-244	285-301	450-476					
PVOLF_MEASY	FUSION GLYCOPROTEIN PRECURSOR	MEASLES VIRUS (STRAIN YAMAGATA-1)	224-245	286-302	451-477					
PVOLF_MUMPI	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN SBL-1)	1-20	276-292	446-467					
PVOLF_MUMSM	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	1-20	276-292	446-467					
PVOLF_MUMSR	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN RW)	1-20	276-292	446-467					
PVOLF_MUMSS	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN SBL)	1-20	276-292	446-467					
PVOLF_NDVA	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA-VICTORIA/32)	273-289							
PVOLF_NDVB	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C45)	273-289							
PVOLF_NDVH3	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN HERTS)	273-289							
PVOLF_NDVH4	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN B1-HITCHNER/47)	273-289							
PVOLF_NDVL	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN LA346)	273-289							
PVOLF_NDVN	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN MIYADERA/51)	273-289							
PVOLF_NDVQ	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN QUEENSLAND/66)	273-289							
PVOLF_NDVT	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN TEXAS)	273-289							
PVOLF_NDVT6	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN TEXAS GB/48)	273-289							
PVOLF_NDVU	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN ULSTER/67)	273-289							
PVOLF_PHDSV	FUSION GLYCOPROTEIN PRECURSOR	PHOCINE DISTEMPER VIRUS	269-285	365-926	367-383	531-548				

PCGENE	P1ICTL21P	All Viruses (No Bacteriophages)									
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVGLF_PI1HC	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C39)	456-477								
PVGLF_PI2H	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 2 VIRUS (PIV-2)	450-471								
PVGLF_PI2HG	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN GREER)	450-471								
PVGLF_PI2HT	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSHIMA)	450-471								
PVGLF_PI3B	FUSION GLYCOPROTEIN PRECURSOR	BOVINE PARAINFLUENZA 3 VIRUS	405-426	453-474							
PVGLF_PI3H4	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	2-20	283-310	453-474						
PVGLF_RINDK	FUSION GLYCOPROTEIN PRECURSOR	RINDERPEST VIRUS (STRAIN KABETE O)	220-241	282-298	447-473						
PVGLF_RINDL	FUSION GLYCOPROTEIN PRECURSOR	RINDERPEST VIRUS (STRAIN L)	220-241	282-298	447-473						
PVGLF_SEND5	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN Z / HOST MUTANTS)	460-481								
PVGLF_SEND7	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN FUSIHAMI)	460-481								
PVGLF_SENDH	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN HARRIS)	460-481								
PVGLF_SENDJ	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN HVJ)	460-481								
PVGLF_SEND2	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN Z)	460-481								
PVGLF_SV41	FUSION GLYCOPROTEIN PRECURSOR	SIMIAN VIRUS 41	453-474								
PVGLF_SVJ	FUSION GLYCOPROTEIN PRECURSOR	SIMIAN VIRUS 5 (STRAIN W3)	401-425	446-467							
PVGLF_TRTV	FUSION GLYCOPROTEIN PRECURSOR	TURKEY RHINOTRACHEITIS VIRUS	175-191	452-474							
PVGLG_IHNV	SPIKE GLYCOPROTEIN PRECURSOR	INFECTIOUS HEMATOPOIETIC NECROSIS VIRUS (STRAIN ROUND BUT	77-99								
PVGLG_RABVE	SPIKE GLYCOPROTEIN PRECURSOR	RABIES VIRUS (STRAIN ERA)	454-474								
PVGLG_RABVH	SPIKE GLYCOPROTEIN PRECURSOR	RABIES VIRUS (STRAIN HEP-FLURY)	372-391	454-474							
PVGLG_RABVP	SPIKE GLYCOPROTEIN PRECURSOR	RABIES VIRUS (STRAIN PV)	454-474								
PVGLG_RABVS	SPIKE GLYCOPROTEIN PRECURSOR	RABIES VIRUS (STRAIN SAD B19)	454-474								
PVGLG_RABVT	SPIKE GLYCOPROTEIN PRECURSOR	RABIES VIRUS (STRAIN STREET)	454-474								
PVGLG_TRTV	MAJOR SURFACE GLYCOPROTEIN G	TURKEY RHINOTRACHEITIS VIRUS	199-216								
PVGLG_VHSV6	SPIKE GLYCOPROTEIN PRECURSOR	VIRAL HEMORRHAGIC SEPTICEMIA VIRUS (STRAIN 07-71)	406-428								
PVGLH_HCMVA	GLYCOPROTEIN H PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	211-237	365-382	574-598	691-712					
PVGLH_HCMVT	GLYCOPROTEIN H PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	210-236	364-381	573-597	690-711					
PVGLH_HSV1I	GLYCOPROTEIN H PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	245-262	443-467	803-827						
PVGLH_HSV1G	GLYCOPROTEIN H PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN HFEM)	245-262	443-467	803-827						
PVGLH_HSV2G	GLYCOPROTEIN H PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN G)	314-332								
PVGLH_HSVE4	GLYCOPROTEIN H PRECURSOR	EQUINE HERPESVIRUS TYPE 4 (STRAIN 1942)	304-325	814-839							
PVGLH_HSVEB	GLYCOPROTEIN H PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)and (ISOLATE HVS25A)	297-318	807-832							
PVGLH_HSVEA	GLYCOPROTEIN H PRECURSOR	HERPESVIRUS SAIMIRI (STRAIN 11)	454-479	658-679							
PVGLH_MCMVS	GLYCOPROTEIN H PRECURSOR	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	670-690								
PVGLI_HCMVA	IE GLYCOPROTEIN PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	158-180								
PVGLI_HSV1I	GLYCOPROTEIN I	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	43-60								
PVGLI_HSVEB	GLYCOPROTEIN I PRECURSOR	EQUINE HERPESVIRUS TYPE 1	44-63								
PVGLI_VZVD	GLYCOPROTEIN I	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	278-297								
PVGLM_BUNGE	M POLYPROTEIN PRECURSOR	BUNYAVIRUS GERMISTON	117-136	197-222							
PVGLM_BUNLT	M POLYPROTEIN PRECURSOR	BUNYAVIRUS LA CROSSE (ISOLATE L74)	31-55	81-98	190-211	1325-1345	1387-1410				
PVGLM_BUNSH	M POLYPROTEIN PRECURSOR	BUNYAVIRUS SNOWSHOE HARE	31-55	81-98	190-211	1325-1345	1387-1410				
PVGLM_BUNYW	M POLYPROTEIN PRECURSOR	BUNYAMWERA VIRUS	193-218	1379-1404							
PVGLM_DUGBV	M POLYPROTEIN PRECURSOR	DUGBE VIRUS									
PVGLM_HANTB	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN B-1)	355-371	692-717	900-915	999-1019					
PVGLM_HANTH	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN HOJO)	499-515	694-718	1000-1020						
PVGLM_HANTL	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN LEE)	499-515	694-719	1001-1021						
PVGLM_HANTV	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN 76-118)	499-515	694-719	1001-1021						
PVGLM_INSV	M POLYPROTEIN PRECURSOR	IMPATIENS NECROTIC SPOT VIRUS (INSV)	18-44	269-293	348-367	531-551	815-841				
PVGLM_PHV	M POLYPROTEIN PRECURSOR	PROSPECT HILL VIRUS	152-171								
PVGLM_PTPV	M POLYPROTEIN PRECURSOR	PUNTA TORO PHLEBOVIRUS	743-765	997-1016	1279-1302						
PVGLM_PUUH1	M POLYPROTEIN PRECURSOR	PUUMALA VIRUS (STRAIN HALLNAS B1)	155-174	509-525	712-729						
PVGLM_PUUH3	M POLYPROTEIN PRECURSOR	PUUMALA VIRUS (STRAIN SOTKAMO)	155-174	509-525	712-729	1092-1113					
PVGLM_RVFV	M POLYPROTEIN PRECURSOR	RIFT VALLEY FEVER VIRUS	53-80	344-368	830-856						
PVGLM_RVFV2	M POLYPROTEIN PRECURSOR	RIFT VALLEY FEVER VIRUS (STRAIN ZH-548 M12)	53-80	344-368	830-856	1156-1176					
PVGLM_SEOU1	M POLYPROTEIN PRECURSOR	SEOUL VIRUS (STRAIN 80-39)	355-371	692-717	900-915	999-1019					
PVGLM_SEOUR	M POLYPROTEIN PRECURSOR	SEOUL VIRUS (STRAIN R22)	355-371	693-718	901-916	1000-1020					
PVGLM_SEOUS	M POLYPROTEIN PRECURSOR	SEOUL VIRUS (STRAIN SR-11) (SAPPORO RAT VIRUS)	355-371	692-717	900-915	999-1019					
PVGLM_UUK	M POLYPROTEIN PRECURSOR	UUKUNIEMI VIRUS	561-585	655-674	826-842	925-952	966-989				

FCGENE	FUNCTION	All Viruses (No Bacteriophage)									
FILENAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PVGLP_BEV	PERIPHERAL GLYCOPROTEIN PRECURSOR	BEANE VIRUS	430-452	869-885	1099-1124	1146-1165					
PVGLX_HSV1E	GLYCOPROTEIN X PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)									
PVGLX_HSV1K	GLYCOPROTEIN GX PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY A)									
PVGLX_HSV1L	GLYCOPROTEIN GX	EQUINE HERPESVIRUS TYPE 1 (STRAIN KENTUCKY D)									
PVGLX_PAVG	SECRETED GLYCOPROTEIN GX	PSEUDORABIES VIRUS (STRAIN BECE)	149-176								
PVGLY_JUNIN	GLYCOPROTEIN POLYPROTEIN PRECURSOR	JUNIN ARENAVIRUS	12-38								
PVGLY_LASSG	GLYCOPROTEIN POLYPROTEIN PRECURSOR	LASSA VIRUS (STRAIN GA391)	12-38	237-258	426-448						
PVGLY_LASJ	GLYCOPROTEIN POLYPROTEIN PRECURSOR	LASSA VIRUS (STRAIN JOSIAH)	12-35	238-259	427-449						
PVGLY_LYCVA	GLYCOPROTEIN POLYPROTEIN PRECURSOR	LYMPHOCYTIC CHORIOMENINGITIS VIRUS (STRAIN ARMSTRONG)	12-35								
PVGLY_LYCVW	GLYCOPROTEIN POLYPROTEIN PRECURSOR	LYMPHOCYTIC CHORIOMENINGITIS VIRUS (STRAIN WE)	12-35	89-108							
PVGLY_MOPEI	GLYCOPROTEIN POLYPROTEIN PRECURSOR	MOPEIA VIRUS	12-35	423-447							
PVGLY_PARV	GLYCOPROTEIN POLYPROTEIN PRECURSOR	PICHINDE ARENAVIRUS	12-38	441-466							
PVGLY_TACV	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACAIUBE VIRUS	12-38								
PVGLY_TACV1	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACAIUBE VIRUS (STRAIN V1)	12-38								
PVGLY_TACV7	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACAIUBE VIRUS (STRAIN V7)	12-38								
PVGLY_TACVT	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACAIUBE VIRUS (STRAIN TRVL 11991)	12-38								
PVGM8_CMVV	GENOME POLYPROTEIN B	COWPEA MOSAIC VIRUS	141-161	568-594	757-783	1110-1135	1165-1184				
PVGM_CMVV	GENOME POLYPROTEIN M	COWPEA MOSAIC VIRUS	311-333	741-764							
PVGP1_EBV	PROBABLE MEMBRANE ANTIGEN GP220	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	637-681								
PVGP2_EBV	ENVELOPE GLYCOPROTEIN GP340	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	854-878								
PVGP_EBV	PROBABLE MEMBRANE ANTIGEN GP85	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	67-88								
PVGP_EBOV	STRUCTURAL GLYCOPROTEIN PRECURSOR	EBOLA VIRUS	34-52	537-561	653-675						
PVGP_MARVM	STRUCTURAL GLYCOPROTEIN PRECURSOR	MARBURG VIRUS (STRAIN MUSOKE)	538-562	607-627							
PVGP_MARVP	STRUCTURAL GLYCOPROTEIN PRECURSOR	MARBURG VIRUS (STRAIN POPP)	538-562	607-627							
PVM01_VACCC	PROTEIN-TYROSINE PHOSPHATASE	VACCINIA VIRUS (STRAIN COPENHAGEN)	76-97	105-121							
PVM01_VACCV	PROTEIN-TYROSINE PHOSPHATASE	VACCINIA VIRUS (STRAIN WR)	76-92	105-121							
PVM01_VARV	PROTEIN-TYROSINE PHOSPHATASE	VARIOLA VIRUS	76-92	105-121							
PVM07_VACCV	LATE PROTEIN H7	VACCINIA VIRUS (STRAIN WR)	76-97								
PVM07_VARV	LATE PROTEIN H7	VARIOLA VIRUS	76-97								
PVMEL_FOWV	PROBABLE HELICASE	FOWLPOX VIRUS	182-205								
PVMEL_PAPV	PROBABLE HELICASE	PAPAYA MOSAIC POTEXVIRUS	135-168								
PVM01_VACCC	PROTEIN 11	VACCINIA VIRUS (STRAIN COPENHAGEN)	126-133								
PVM01_VARV	PROTEIN 11	VARIOLA VIRUS	126-133								
PVM03_VACCC	PROTEIN 13	VACCINIA VIRUS (STRAIN COPENHAGEN)	194-220								
PVM03_VACCV	PROTEIN 13	VACCINIA VIRUS (STRAIN WR)	194-220								
PVM03_VARV	PROTEIN 13	VARIOLA VIRUS	194-220								
PVM06_VACCV	PROTEIN 16	VACCINIA VIRUS (STRAIN WR)	106-128	133-155							
PVM06_VARV	PROTEIN 16	VARIOLA VIRUS	106-128	133-155							
PVM07_VACCC	PROTEIN 17	VACCINIA VIRUS (STRAIN COPENHAGEN)	13-34	344-367							
PVM07_VACCV	PROTEIN 17	VACCINIA VIRUS (STRAIN WR)	13-34	344-367							
PVM07_VARV	PROTEIN 17	VARIOLA VIRUS	13-34	344-367							
PVM08_VACCC	PUTATIVE RNA HELICASE 18	VACCINIA VIRUS (STRAIN COPENHAGEN)	196-212	418-438							
PVM08_VACCV	PUTATIVE RNA HELICASE 18	VACCINIA VIRUS (STRAIN WR)	196-212	418-438							
PVM08_VARV	PUTATIVE RNA HELICASE 18	VARIOLA VIRUS	196-212	418-438							
PVBE1_HCMVA	55 KD IMMEDIATE-EARLY PROTEIN 1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	77-100	333-350							
PVBE1_HCMVT	55 KD IMMEDIATE-EARLY PROTEIN 1	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	77-100	333-350							
PVBE2_HCMVA	43 KD IMMEDIATE-EARLY PROTEIN 2	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	14-32	389-406							
PVBE2_HCMVT	43 KD IMMEDIATE-EARLY PROTEIN 2	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	14-32	388-405							
PVBE3_HCMVS	DNA-DEPENDENT DNA POLYMERASE	HUMAN CYTOMEGALOVIRUS (STRAIN SMITH)	251-272								
PVBE3_HCMVT	30 KD IMMEDIATE-EARLY PROTEIN 2	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	14-32								
PVBE4_HSV1A	IMMEDIATE-EARLY PROTEIN IE-0	HERPESVIRUS SAIMIRI (STRAIN 11)	65-80								
PVBEN_NPVAC	IMMEDIATE-EARLY 82D PROTEIN IE-N	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	100-116	273-290							
PVD4P_EBV	PROB INTEGRAL MEMBRANE PROTEIN BBLF3	EPSTEIN-BARR VIRUS (STRAIN B95-8)	75-100	125-152	203-222						
PVD4P_HCMVA	PROBABLE INTEGRAL MEMBRANE PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	68-89	190-217							
PVD4P_HSV11	PROBABLE INTEGRAL MEMBRANE PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	83-110	250-270							
PVD4P_HSV1E	PROBABLE INTEGRAL MEMBRANE PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	24-49	93-120	145-172	267-283	301-321	333-358			
PVD4P_HSV1A	INTEGRAL MEMBRANE PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	76-101	313-331							

PCGENE	P1XCTL2IP	All Viruses (No Bacteriophages)									
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVIMP_VZVD	PROBABLE INTEGRAL MEMBRANE PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	21-47	154-181	230-252						
PVJ01_VACCC	PROTEIN J1	VACCINIA VIRUS (STRAIN COPENHAGEN)	89-110								
PVJ01_VACCV	PROTEIN J1	VACCINIA VIRUS (STRAIN WR)	89-110								
PVJ01_VARV	PROTEIN J1	VARIOLA VIRUS	89-110								
PVK04_VACCC	PROTEIN K4	VACCINIA VIRUS (STRAIN COPENHAGEN)	87-113	208-234	319-337						
PVK04_VACCV	PROTEIN K4	VACCINIA VIRUS (STRAIN WR)	87-113	208-234	319-337						
PVK05_VACCC	PROTEIN K5	VACCINIA VIRUS (STRAIN COPENHAGEN)	106-133								
PVL03_VACCC	PROTEIN L3	VACCINIA VIRUS (STRAIN COPENHAGEN)	39-61								
PVL03_VACCV	PROTEIN L3	VACCINIA VIRUS (STRAIN WR)	39-61								
PVL03_VARV	PROTEIN L3	VARIOLA VIRUS	39-61								
PVL03_VACCC	PROTEIN L3	VACCINIA VIRUS (STRAIN COPENHAGEN)	148-164	186-208	292-315						
PVL03_VACCV	PROTEIN L3	VACCINIA VIRUS (STRAIN WR)	148-164	186-208	292-315						
PVL03_VARV	PROTEIN L3	VARIOLA VIRUS	147-163	185-207	291-314						
PVL05_VACCV	PROTEIN L5	VACCINIA VIRUS (STRAIN WR), AND (STRAIN COPENHAGEN)	16-39								
PVL05_VARV	PROTEIN L5	VARIOLA VIRUS	16-39								
PVL1_CRPVK	PROBABLE L1 PROTEIN	COTTONTAIL RABBIT (SHOPE) PAPILLOMAVIRUS (STRAIN KANSAS)	299-317								
PVL1_HPV18	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 18	28-55								
PVL1_HPV41	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	38-63								
PVL1_REOVD	MAJOR CORE PROTEIN LAMBDA 1	REOVIRUS (TYPE 3 / STRAIN DEARING)	327-346	351-366	752-774						
PVL3_HPV08	PROBABLE L3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 8	256-270								
PVL3_HPV11	PROBABLE L3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	32-58								
PVL3_HPV13	PROBABLE L3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 13	33-59								
PVL3_HPV16	PROBABLE L3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	34-60								
PVL3_HPV18	PROBABLE L3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 18	33-59								
PVL3_HPV1A	PROBABLE L3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 1A	213-228								
PVL3_HPV2A	PROBABLE L3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 2A	88-114								
PVL3_HPV31	PROBABLE L3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31	34-60	443-462							
PVL3_HPV33	PROBABLE L3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	33-59	99-114							
PVL3_HPV35	PROBABLE L3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 35	34-60								
PVL3_HPV41	PROBABLE L3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	39-58	414-436							
PVL3_HPV42	PROBABLE L3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 42	33-59	344-370							
PVL3_HPV47	PROBABLE L3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 47	250-265								
PVL3_HPV57	PROBABLE L3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 57	32-58								
PVL3_HPV58	PROBABLE L3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	33-59	99-114							
PVL3_HPV6B	PROBABLE L3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6B	33-59								
PVL3_PAPVE	PROBABLE L3 PROTEIN	EUROPEAN ELK PAPILLOMAVIRUS	30-56								
PVL3_RHPVI	PROBABLE L3 PROTEIN	RHESUS PAPILLOMAVIRUS TYPE 1	45-71								
PVL3_HPV5B	PROBABLE L3 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 5B	6-28								
PVL3_REOVD	MINOR CORE PROTEIN LAMBDA 3	REOVIRUS (TYPE 3 / STRAIN DEARING	714-737								
PVL3_REOVJ	MINOR CORE PROTEIN LAMBDA 3	REOVIRUS (TYPE 2 / STRAIN DS/JONES)	714-737	1213-1236							
PVL3_REOVL	MINOR CORE PROTEIN LAMBDA 3	REOVIRUS (TYPE 1 / STRAIN LANG)	714-737								
PVL96_IRVI	L96 PROTEIN	TIPULA IRIDESCENT VIRUS (TIV) (INSECT IRIDESCENT VIRUS TYPE 1)	144-170	196-220	686-711	845-861					
PVM01_VACCC	PROTEIN M1	VACCINIA VIRUS (STRAIN COPENHAGEN)	134-159	177-195	281-302						
PVM01_VACCV	PROTEIN M1	VACCINIA VIRUS (STRAIN WR)	83-108	126-144	230-251						
PVM01_VARV	PROTEIN M1	VARIOLA VIRUS	81-106	124-142	228-249						
PVM1_REOVD	MINOR VIRION STRUCTURAL PROTEIN MU-2	REOVIRUS (TYPE 3 / STRAIN DEARING)	141-168	227-245	280-304	324-347	414-436	454-477			
PVM1_REOVL	MINOR VIRION STRUCTURAL PROTEIN MU-2	REOVIRUS (TYPE 1 / STRAIN LANG)	141-168	227-245	280-304	414-436	454-477				
PVM21_REOVD	MAJOR VIRION STRUC PROTEIN MU-1/MU-1C	REOVIRUS (TYPE 3 / STRAIN DEARING)	168-192								
PVM23_REOVD	MAJOR VIRION STRUCT PROTEIN MU-1/MU-1C	REOVIRUS (TYPE 3 / STRAIN DEARING)	168-192								
PVM2_REOVJ	MAJOR VIRION STRUC PROTEIN MU-1/MU-1C	REOVIRUS (TYPE 2 / STRAIN DS/JONES)	168-192								
PVM2_REOVL	MAJOR VIRION STRUC PROTEIN MU-1/MU-1C	REOVIRUS (TYPE 1 / STRAIN LANG)	168-192								
PVM3_REOVD	MAJOR NONSTRUCTURAL PROTEIN MU-NS	REOVIRUS (TYPE 3 / STRAIN DEARING)	304-326	521-540							
PVMAT_BRSVA	MATRIX PROTEIN	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A51908)	37-62								
PVMAT_CDVD	MATRIX PROTEIN	CANINE DISTEMPER VIRUS (STRAIN ONDERSTEPOORT)	148-165	283-309							
PVMAT_HRSVA	MATRIX PROTEIN	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	44-62	139-160							
PVMAT_LPMV	MATRIX PROTEIN	LA PIEDAD-MICHOACAN-MEXICO VIRUS	311-338								
PVMAT_MEASE	MATRIX PROTEIN	MEASLES VIRUS (STRAIN EDMONSTON)	283-309								

ACCENT	PIRCTL2.IP	All Viruses (No Bacteriophages)								
FILE_NAME	PROTEIN	VIRUS	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA2
PVMAT_MEAUB	MATRIX PROTEIN	MEASLES VIRUS (STRAIN HALLE)	203-309							
PVMAT_MEAU	MATRIX PROTEIN	MEASLES VIRUS (STRAIN IP-3-CA)	87-111							
PVMAT_MEAU	MATRIX PROTEIN	MEASLES VIRUS (STRAIN HU2)	203-309							
PVMAT_MUMP1	MATRIX PROTEIN	MUMPS VIRUS (STRAIN SBL-1)	191-207	227-250	310-330					
PVMAT_MUMPS	MATRIX PROTEIN	MUMPS VIRUS (STRAIN SBL)	191-207	227-250	310-330					
PVMAT_NDVA	MATRIX PROTEIN	NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA-VICTORIA/32)	135-151	190-208	309-329					
PVMAT_NDVB	MATRIX PROTEIN	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C/45)	135-151	190-208	309-329					
PVMAT_PIIHC	MATRIX PROTEIN	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C/39)	195-217							
PVMAT_PIHT	MATRIX PROTEIN	HUMAN PARAINFLUENZA 2 VIRUS (STRAIN TOSHIBA) (PIV-2)	132-154	189-203	308-328					
PVMAT_PIHA	MATRIX PROTEIN	HUMAN PARAINFLUENZA 4A VIRUS (STRAIN TOSHIBA) (PIV-4A)	312-333							
PVMAT_PIHB	MATRIX PROTEIN	HUMAN PARAINFLUENZA 4B VIRUS (STRAIN 68-333) (PIV-4B)	312-333							
PVMAT_RINDK	MATRIX PROTEIN	RINDERPEST VIRUS (STRAIN KABETE O)	200-221	239-260	283-309					
PVMAT_SEND	MATRIX PROTEIN	SENDAI VIRUS (STRAIN FUSHIMI)	195-217							
PVMAT_SENDH	MATRIX PROTEIN	SENDAI VIRUS (STRAIN HARRIS)	195-217							
PVMAT_SENDZ	MATRIX PROTEIN	SENDAI VIRUS (STRAIN Z)	195-217							
PVMAT_SUPV	MATRIX PROTEIN	SUBACUTE SCLEROSING PANENCEPHALITIS VIRUS (STRAIN BIKEN)	283-309	314-338						
PVMAT_SV41	MATRIX PROTEIN	SIMIAN VIRUS 41	132-154	189-203	308-328					
PVMAT_SV5	MATRIX PROTEIN	SIMIAN VIRUS 5 (STRAIN W3)	96-114	133-148	308-335					
PVMAT_SVCV	MATRIX PROTEIN	SPRING VIREMIA OF CARP VIRUS (RHABDOVIRUS CARPIA)	141-167							
PVMAT_THTV	MATRIX PROTEIN	TUROLEY HEMORRHAGGEITIS VIRUS	122-143							
PVME1_CVMA	E1 GLYCOPROTEIN	BOVINE CORONAVIRUS (STRAIN MEDIUS)	9-36	137-161	171-190					
PVME1_CVH22	E1 GLYCOPROTEIN	HUMAN CORONAVIRUS (STRAIN 229E)	136-155							
PVME1_CVHOC	E1 GLYCOPROTEIN	HUMAN CORONAVIRUS (STRAIN OC43)	9-36	64-85	137-161					
PVME1_CVMJ	E1 GLYCOPROTEIN	MURINE CORONAVIRUS M6IV (STRAIN A59)	10-37							
PVME1_CVMN	E1 GLYCOPROTEIN	MURINE CORONAVIRUS M6IV (STRAIN JHM)	10-37							
PVME1_CVPF5	E1 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAI	174-193							
PVME1_CVPU	E1 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAI	169-193	174-193						
PVME1_CVRM	E1 GLYCOPROTEIN PRECURSOR	PORCINE RESPIRATORY CORONAVIRUS (STRAIN RM4)	174-193							
PVME1_CVTRE	E1 GLYCOPROTEIN	TURKEY ENTERIC CORONAVIRUS	9-36	137-161	171-190					
PVME1_IBV	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN 6/82)	74-98							
PVME1_IBV1	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)	74-101							
PVME1_IBVK	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE 1442)	74-101							
PVMEM_EBV	PROBABLE MEMBRANE PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	74-98							
PVMP_CAMVC	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841)	131-157	178-203						
PVMP_CAMVD	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN DH)	118-134	147-164	183-201					
PVMP_CAMVE	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN B6C)	118-134	147-164	183-201					
PVMP_CAMVN	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY8153)	118-134	147-164	183-201					
PVMP_CAMVS	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN STRASBOURG)	118-134	147-164	183-201					
PVMP_CAMVW	MOVEMENT PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN W260)	118-134	147-164	183-201					
PVMP_CBTV	MOVEMENT PROTEIN	CARNATION ETCHED RING VIRUS	201-218							
PVMP_FMVD	MOVEMENT PROTEIN	FIGWORT MOSAIC VIRUS (STRAIN DXS)	115-131	186-198						
PVMP_SCSCV	MOVEMENT PROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	122-147	275-299						
PVM5A_HPBDB	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS (BROWN SHANGHAI DUCK ISOLATE 51)	201-221	260-295						
PVM5A_HPBDC	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS (STRAIN CHINA)	194-221	268-284						
PVM5A_HPBDU	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS	137-184	231-257						
PVM5A_HPBDW	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS (WHITE SHANGHAI DUCK ISOLATE 511)	194-221	260-295						
PVM5A_HPBG3	MAJOR SURFACE ANTIGEN PRECURSOR	GROUND SQUIRREL HEPATITIS VIRUS	209-236	271-295	300-393					
PVM5A_HPBHE	MAJOR SURFACE ANTIGEN PRECURSOR	HERON HEPATITIS B VIRUS	216-262	293-320						
PVM5A_HPBV	MAJOR SURFACE ANTIGEN	HEPATITIS B VIRUS	11-28	76-96						
PVM5A_HPBV1	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW2)	181-202	244-270						
PVM5A_HPBV2	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADR4)	181-202	244-270						
PVM5A_HPBV3	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN 991)	244-270							
PVM5A_HPBV4	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (STRAIN ALPHA1)	174-191	233-259						
PVM5A_HPBV5	MAJOR SURFACE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE AD)	11-28	76-96						
PVM5A_HPBV6	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN INDONESIA/PIDW420)	233-259							
PVM5A_HPBV7	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN JAPAN/PIDW233)	174-191	233-259						

FOCUS#	FILE#	All Viruses (No Bacteriophages)							
FILE NAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7
PVM3A_HPIVH	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (STRAIN LSH / CHIMPANZEE ISOLATE	174-191	233-259					
PVM3A_HPIVN	MAJOR SURFACE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADR / STRAIN NC-1)	11-28	70-96					
PVM3A_HPIVO	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADR / STRAIN OKINAWA/OOW2812)	174-191	233-259					
PVM3A_HPIVP	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN PHILIPPINOP/FDW294)	185-202	244-270					
PVM3A_HPIVR	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADR)	185-202	244-270					
PVM3A_HPIVS	MAJOR SURFACE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE AR)	11-28	70-96					
PVM3A_HPIVW	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW)	174-191	233-259					
PVM3A_HPIVY	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE AYW)	174-191	233-259					
PVM3A_HPIVZ	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADYW)	174-191	233-259					
PVM3A_WHV1	MAJOR SURFACE ANTIGEN PRECURSOR	WOODCHUCK HEPATITIS VIRUS 1	207-224	249-293	378-393				
PVM3A_WHV9	MAJOR SURFACE ANTIGEN PRECURSOR	WOODCHUCK HEPATITIS VIRUS 9	212-229	274-298	383-398				
PVM3A_WHV7	MAJOR SURFACE ANTIGEN PRECURSOR	WOODCHUCK HEPATITIS VIRUS 7	212-229	274-298	383-398				
PVM3A_WHV8	PROB MAJOR SURFACE ANTIGEN PREC	WOODCHUCK HEPATITIS VIRUS 8	212-229	274-298	383-398				
PVM3A_WHVW4	MAJOR SURFACE ANTIGEN PRECURSOR	WOODCHUCK HEPATITIS VIRUS 8 (INFECTIOUS CLONE)	212-229	274-298	383-398				
PVM7I_IAJAN	MATRIX (M2) PROTEIN	WOODCHUCK HEPATITIS VIRUS W64 (ISOLATE PW522)	135-149	274-298					
PVM7I_IAJAN	MATRIX (M2) PROTEIN	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	23-46	234-249					
PVM7I_IAFOW	MATRIX (M2) PROTEIN	INFLUENZA A VIRUS (STRAIN A/BANGKOK/1/79)	23-46						
PVM7I_IAFPR	MATRIX (M2) PROTEIN	INFLUENZA A VIRUS (STRAIN A/FORT WARREN/1/50)	23-46						
PVM7I_IAFW	MATRIX (M2) PROTEIN	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK/34)	23-46						
PVM7I_IALEI	MATRIX (M2) PROTEIN	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/WEYBRIDGE)	23-46						
PVM7I_IALEN	MATRIX (M2) PROTEIN	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/57)	23-46						
PVM7I_IAMAN	MATRIX (M2) PROTEIN	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/1757)	23-46						
PVM7I_IAPUE	MATRIX (M2) PROTEIN	INFLUENZA A VIRUS (STRAIN A/MALLARD/NEW YORK/6750/78)	23-46						
PVM7I_IAUDO	MATRIX (M2) PROTEIN	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	23-46						
PVM7I_IAWE	MATRIX (M2) PROTEIN	INFLUENZA A VIRUS (STRAIN A/SINGAPORE/1/57)	23-46						
PVM7I_IAWL	MATRIX (M2) PROTEIN	INFLUENZA A VIRUS (STRAIN A/UDORN/307/72)	23-46						
PVM7I_IAWSL	MATRIX (M2) PROTEIN	INFLUENZA A VIRUS (STRAIN A/WILSON-SMITH/33)	23-46						
PVM7I_IOTBL	M7-1 PROTEIN	MYXOMA VIRUS (STRAIN LAUSANNE)	226-241						
PVN3A_BVDV	NONSTRUCTURAL PROTEIN NS3/4	BOVINE ROTAVIRUS (GROUP C / STRAIN SHINTOKU)	334-351						
PVN8P_PVP2	18 TO KD PROTEIN	POTATO VIRUS X (STRAIN PERUVIAN)	21-36						
PVN8_DNBAK	NS GLYCOPROTEIN	INFLUENZA B VIRUS (STRAIN B/BEIJING/1/87)	13-39						
PVN8_DNBLE	NS GLYCOPROTEIN	INFLUENZA B VIRUS (STRAIN B/HONG KONG/8/73)	13-39						
PVN8_DNBLN	NS GLYCOPROTEIN	INFLUENZA B VIRUS (STRAIN B/LEE/40)	13-39						
PVN8_DNBMD	NS GLYCOPROTEIN	INFLUENZA B VIRUS (STRAIN B/LENINGRAD/179/86)	13-39						
PVN8_DNBNZ	NS GLYCOPROTEIN	INFLUENZA B VIRUS (STRAIN B/MARYLAND/59)	13-39						
PVN8_DNBOR	NS GLYCOPROTEIN	INFLUENZA B VIRUS (STRAIN B/OREGON/5/80)	13-39						
PVNC3_ADVD	NONCAPSID PROTEIN NS-1	ALEUTIAN MINK DISEASE PARVOVIRUS (STRAIN G)	81-96	169-190					
PVNC3_AEDEV	NONCAPSID PROTEIN NS-1	AEDES DENSONUCLEOSIS VIRUS (STRAIN GRV 002 002) (AEDES DENS	673-690						
PVNC3_PAVHB	NONCAPSID PROTEIN NS-1	HUMAN PARVOVIRUS B19	573-597						
PVNC3_PAVHR	NONCAPSID PROTEIN NS-1	HAMSTER PARVOVIRUS H1	140-165						
PVNS1_AHSV4	NONSTRUCTURAL PROTEIN NS1	AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4 / STRAIN VACCINE)	336-372						
PVNS1_IAALA	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ALASKA/77)	31-50	114-137	167-192				
PVNS1_IAANN	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	31-50	114-137	167-192				
PVNS1_IACAO	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/CAVE/MONGOLIA/82)	19-38						
PVNS1_IACKD	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/CHILE/1/83)	31-50	114-137	167-192				
PVNS1_IACKJ	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/CHICKEN/GERMANY/N/49)	31-50	167-192					
PVNS1_IADA2	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/CHICKEN/JAPAN/2/74)	28-47	164-189					
PVNS1_IADE1	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERTA/60/76)	31-50	167-192					
PVNS1_IADU5	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/DUCK/ENGLAND/1/56)	28-47	164-189					
PVNS1_IADU9	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/DUCK/UKRAINE/1/63)	28-47	164-189					
PVNS1_IAFON	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/FORT MONMOUTH/1/47)	28-47	164-189					
PVNS1_IAFOW	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/FORT WARREN/1/50) AND STRAIN A/	31-50	114-137	167-192				
PVNS1_IAFPR	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK/34)	31-50	114-137	167-192				
PVNS1_IALEI	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/WEYBRIDGE)	31-50	167-192					
PVNS1_IALEN	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/57)	31-50	114-137	167-192				
PVNS1_IAMAN	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/MALLARD/ALBERTA/35/76)	31-50	114-137	167-192				
			31-50	167-192					

ACCESSION	FUNCTION	All Viruses (No Bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
TITLE NAME	PROTEIN	VIRUS									
PVNS1_IAVAN	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/MALLARD/NEW YORK/6750/78)	31-50	167-192							
PVNS1_IAVAO	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/MALLARD/NEW YORK/6874/78)	31-50	167-192							
PVNS1_IAVAN	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ANYANG/HANEDA-THAI/76)	28-47	164-189							
PVNS1_IAPA6	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/119/79)	167-192								
PVNS1_IAPI1	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/121/79)	31-50	167-192							
PVNS1_IAPI2	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/268/78)	31-50	167-192							
PVNS1_IAPI3	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/759/79)	31-50	167-192							
PVNS1_IAPI4	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	31-50	114-137	167-192						
PVNS1_IATR3	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TURKEY/DEVILENBEM-GULI/1/1492-B/81)	31-50	167-192							
PVNS1_IATR2	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TURKEY/CANADA/63)	31-50	167-192							
PVNS1_IATR1	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TURKEY/OREGON/71)	31-50								
PVNS1_IATR3	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TERN/SOUTH AFRICA/61)	28-47	164-189							
PVNS1_IATR7	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TERN/TURKMENIA/1972)	31-50	167-192							
PVNS1_IAUD0	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/DUCK/AUSSURI/30772)	31-50	114-137	167-192						
PVNS1_IAUS3	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/USSR/90/77)	31-50	114-137	167-192						
PVNS1_IAZ21	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/WINS/NSW/A/1590)	31-50	167-192							
PVNS1_INCCA	NONSTRUCTURAL PROTEIN NS1	INFLUENZA C VIRUS (STRAIN C/ANN ARBOR/1/50)	222-248								
PVNS1_INCCA	NONSTRUCTURAL PROTEIN NS1	INFLUENZA C VIRUS (STRAIN C/CALIFORNIA/78)	222-248								
PVNS2_BTV10	NONSTRUCTURAL PROTEIN NS2	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	145-161	201-223							
PVNS2_BTV17	NONSTRUCTURAL PROTEIN NS2	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	145-161	201-223							
PVNS2_BTV13	NONSTRUCTURAL PROTEIN NS2	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE SOUTH AFRICA)	145-161								
PVNS2_BTV1X	NONSTRUCTURAL PROTEIN NS2	BLUETONGUE VIRUS (SEROTYPE 10)	145-161								
PVNS2_EHDV2	NONSTRUCTURAL PROTEIN NS2	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 2 / STRAIN AL	145-161								
PVNS3_IAPU6	NONSTRUCTURAL PROTEIN NS3	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	3-28								
PVNS3_IATR3	NONSTRUCTURAL PROTEIN NS3	INFLUENZA A VIRUS (STRAIN A/TERN/SOUTH AFRICA/61)	36-80								
PVNS3_PVM	NONSTRUCTURAL PROTEIN 3	PNEUMONIA VIRUS OF MICE	13-48								
PVNS3_CVPR1	NONSTRUCTURAL PROTEIN 3-1	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAI	177-201								
PVNS3_CVPPU	NONSTRUCTURAL PROTEIN 3-1	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAI	96-122								
PVNS3_CVPRM	NONSTRUCTURAL PROTEIN 3-1	PORCINE RESPIRATORY CORONAVIRUS (STRAIN RM4)	177-201								
PVNS3_RSV	NONSTRUCTURAL PROTEIN NS3	RICE STRIPE VIRUS	16-40								
PVNS4_CVH22	NONSTRUCTURAL PROTEIN 4	HUMAN CORONAVIRUS (STRAIN 229E)	84-100								
PVNS4_CVMJ	NONSTRUCTURAL PROTEIN 4	MURINE CORONAVIRUS MHV (STRAIN S)	17-38								
PVNS4_CVPR1	NONSTRUCTURAL PROTEIN 4	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAI	4-31								
PVNS4_CVPPU	NONSTRUCTURAL PROTEIN 4	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAI	4-31								
PVNS4_CVPRM	NONSTRUCTURAL PROTEIN 4	PORCINE RESPIRATORY CORONAVIRUS (STRAIN RM4)	4-31								
PVNS4_MSTV	NONSTRUCTURAL PROTEIN NS4	MAIZE STRIPE VIRUS	41-58								
PVNS4_RSTV	NONSTRUCTURAL PROTEIN NS4	RICE STRIPE VIRUS	41-58	60-82	132-167						
PVNS7_CVFIP	NONSTRUCTURAL PROTEIN 7	FELINE INFECTIOUS CORONAVIRUS (STRAIN 79-1683)	59-84								
PVNS7_FIPV	NONSTRUCTURAL PROTEIN 7	FELINE INFECTIOUS PERITONITIS VIRUS (STRAIN 79-1146)	59-84								
PVNSC_FIIB	NONSTRUCTURAL PROTEIN C	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C3)	76-92								
PVNSC_FIIC	NONSTRUCTURAL PROTEIN C	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C39)	76-92								
PVNSC_FIID	NONSTRUCTURAL PROTEIN C	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C3-577)	76-92	176-197							
PVNSC_FIIB	NONSTRUCTURAL PROTEIN C	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C1-1483)	76-92								
PVNST_CVBQ	33 KD NONSTRUCTURAL PROTEIN	BOVINE CORONAVIRUS (STRAIN QUEBEC)	88-109								
PVNST_INCOL	NONSTRUCTURAL PROTEINS NS1-NS2	INFLUENZA C VIRUS (STRAIN C/GREAT LAKES/1167/54)	222-248								
PVNST_INCJH	NONSTRUCTURAL PROTEINS NS1-NS2	INFLUENZA C VIRUS (STRAIN C/JOHANNESBURG/1/66)	222-248								
PVNST_INCMI	NONSTRUCTURAL PROTEINS NS1-NS2	INFLUENZA C VIRUS (STRAIN C/MISSISSIPPI/1/85)	222-248								
PVNST_INCYA	NONSTRUCTURAL PROTEINS NS1-NS2	INFLUENZA C VIRUS (STRAIN C/YAMAGATA/1/81)	222-248								
PVNST_PTPV	NONSTRUCTURAL PROTEIN NS-3	PUNTA TORO PHLEBOVIRUS	48-63								
PVNST_SFSV	NONSTRUCTURAL PROTEIN NS-3	SANDFLY FEVER SICILIAN VIRUS	16-34								
PVNST_UUK	NONSTRUCTURAL PROTEIN NS-3	UUKUNIEMI VIRUS	52-73	88-104							
PVNUA_PVKA	PROBABLE NUCLEAR ANTIGEN	PSEUDORABIES VIRUS (STRAIN KAPLAN)	756-777	1343-1383							
PVNUC_DHVI	NUCLEOPROTEIN	DHORI VIRUS (STRAIN INDIAN/1/1961)	123-139	297-324							
PVNUC_EBOV	NUCLEOPROTEIN	EBOLA VIRUS	159-176								
PVNUC_IAANA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/ANAS ACUT/AFRUMORUE/695/76)	175-197	266-287							
PVNUC_IAANN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	175-197								
PVNUC_IABRA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/BRAZIL/11/78)	175-197								

ACCESSION	FUCTEJP	All Viruses (No Bacteriophages)								
FILE NAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PVNUC_IAJUD	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/BUDGERIGAR/HOKKAIDO/1/77)	173-197							
PVNUC_IACAL	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/CALIFORNIA/10/78)	173-197							
PVNUC_IACKG	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/CHICKEN/GERMANY/N/49)	173-197							
PVNUC_IACKP	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/CHICKEN/PENNSYLVANIA/1/83)	173-197							
PVNUC_IADAU	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/AUSTRALIA/44/90)	173-197							
PVNUC_IADK6	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/BEIJING/1/78)	173-197							
PVNUC_IADCZ	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/CZECHOSLOVAKIA/56)	173-197							
PVNUC_IADEI	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/ENGLAND/1/56)	173-197							
PVNUC_IADE1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/ENGLAND/1/62)	173-197							
PVNUC_IADHK	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/HONG KONG/7/75)	173-197							
PVNUC_IADM2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/MEMPHIS/928/74)	173-197							
PVNUC_IADMA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/MANITOBA/1/53)	173-197							
PVNUC_IADNZ	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/NEW ZEALAND/51/76)	173-197							
PVNUC_IADU3	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/DUCK/UKRAINE/2/60)	173-197							
PVNUC_IAEN5	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/ENGLAND/1955)	173-197							
PVNUC_IAFOW	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/FOWL/ROSTOCK/34)	173-197							
PVNUC_IAFO	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/FORT MONMOUTH/1/47)	173-197							
PVNUC_IAFPO	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/FORT WARREN/1/50)	173-197							
PVNUC_IAFPA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/DOBSON/DUTCH)	173-197							
PVNUC_IAFPE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK/34)	173-197							
PVNUC_IAGRE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GREY TEAL/AUSTRALIA/2/79)	173-197							
PVNUC_IAGU1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GUILLMARYLAND/5/77)	173-197							
PVNUC_IAGU3	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GUILLMARYLAND/704/77)	173-197							
PVNUC_IAGU2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GUILLMARYLAND/1124/78)	173-197							
PVNUC_IAGU4	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GUILLMARYLAND/1815/79)	173-197							
PVNUC_IAGUA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GUILL/ASTRAKHAN/223/84)	173-197							
PVNUC_IAGUM	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GUILL/MASSACHUSETTS/26/80)	173-197							
PVNUC_IAGUN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/GUILL/MINNESOTA/9543/80)	173-197							
PVNUC_IAHK	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/HICKOX/40)	173-197							
PVNUC_IAHJ1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/JILLIN/1/89)	173-197							
PVNUC_IAHK4	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/LONDON/1416/73)	173-197							
PVNUC_IAHO1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/MIAMI/1/63)	173-197							
PVNUC_IAHO2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/HONG KONG/1/68)	173-197							
PVNUC_IAHP8	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/HONG KONG/8/83)	173-197							
PVNUC_IAHP1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/PRAGUE/1/56)	173-197							
PVNUC_IAHT8	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/TENNESSEE/5/66)	173-197							
PVNUC_IALEP	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/LEIPZIG/1/79)	173-197							
PVNUC_IALEN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/54/1)	173-197							
PVNUC_IAMAA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/MALLARD/ASTRAKHAN/244/82)	173-197							
PVNUC_IAMAN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/MALLARD/NEW YORK/6750/78)	173-197							
PVNUC_IAMON	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/MINK/SWEDEN/84)	173-197							
PVNUC_IANT6	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/NT/60/68)	173-197							
PVNUC_IAONE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/ORE/001/83)	173-197							
PVNUC_IAPAR	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/PARROT/ULSTER/73)	173-197							
PVNUC_IAPUE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	173-197							
PVNUC_IARUD	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/RUDDY TURNSTONE/NEW JERSEY/47/)	173-197							
PVNUC_IASE9	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SEAL/MASSACHUSETTS/1/80)	173-197							
PVNUC_IASHW	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SHEARWATER/AUSTRALIA/72)	173-197							
PVNUC_IASIN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SINGAPORE/1/57)	173-197							
PVNUC_IATEI	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/TEAL/ICELAND/29/80)	173-197							
PVNUC_IATUN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/TURKEY/MINNESOTA/1661/81)	173-197							
PVNUC_IATK0	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/TURKEY/ONTARIO/7732/66)	173-197							
PVNUC_IATR5	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/TERN/SOUTH AFRICA/61)	173-197							
PVNUC_IATR1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/TERN/TURKMENIA/18/71)	173-197							
PVNUC_IATX1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/TEXAS/1/77)	173-197							
PVNUC_IAUDO	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/UDORN/307/72)	173-197							
PVNUC_IAUS3	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/USSR/90/77)	173-197							
PVNUC_IAVI6	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/VICTORIA/3/68)	173-197							

FCGENE	P13CTL2.IP	All Viruses (No Bacteriophages)									
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVNUC_IAWHN	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WHALE/MAINE/328/84)	173-197								
PVNUC_IAWHP	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WHALE/PACIFIC OCEAN/19/76)	173-197								
PVNUC_IAWIL	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/WILSON-SMITH/33)	173-197								
PVNUC_IAZ29	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/29/37)	173-197								
PVNUC_IAZ41	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/41/49)	173-197								
PVNUC_IAZCA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/CAMBRIDGE/1/35)	173-197								
PVNUC_IAZDA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/DANDONG/9/83)	173-197								
PVNUC_IAZGE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/GERMANY/2/81)	173-197								
PVNUC_IAZH1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/HONG KONG/6/76)	173-197								
PVNUC_IAZH3	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/HONG KONG/126/82)	173-197								
PVNUC_IAZI1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/15/30)	173-197								
PVNUC_IAZI3	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/1976/31)	173-197								
PVNUC_IAZI5	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/46)	173-197								
PVNUC_IAZI4	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/ITALY/4934/89)	173-197								
PVNUC_IAZIA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/JAMESBURG/42)	173-197								
PVNUC_IAZMA	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/MIAY/54)	173-197								
PVNUC_IAZNE	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/NETHERLANDS/12/85)	173-197								
PVNUC_IAZOH	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/OHIO/23/35)	173-197								
PVNUC_IAZW1	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/WISCONSIN/1/57)	173-197								
PVNUC_IAZW2	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/WISCONSIN/1/61)	173-197								
PVNUC_INBAC	NUCLEOPROTEIN	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 [COLD-ADAPTED])	234-258								
PVNUC_INBAD	NUCLEOPROTEIN	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 [WILD-TYPE])	234-258								
PVNUC_INBLE	NUCLEOPROTEIN	INFLUENZA B VIRUS (STRAIN B/LEE/40)	234-258								
PVNUC_INBSI	NUCLEOPROTEIN	INFLUENZA B VIRUS (STRAIN B/SINGAPORE/222/79)	234-258								
PVNUC_MABVM	NUCLEOPROTEIN	MARBURG VIRUS (STRAIN MUSOKE)	16-39	141-158							
PVNUC_MABVP	NUCLEOPROTEIN	MARBURG VIRUS (STRAIN POPP)	16-39	141-158							
PVO01_VACCC	PROTEIN O1	VACCINIA VIRUS (STRAIN COPENHAGEN)	189-204	242-262	336-358						
PVO01_VARV	PROTEIN O1	VARIOLA VIRUS	189-204	242-262	336-358						
PVOR1_FOXV	152 KD PROTEIN	FOXTAIL MOSAIC VIRUS	846-865								
PVOR1_NSKV	186 KD PROTEIN	NARCISSUS MOSAIC VIRUS	409-424	990-1010							
PVOR1_PVMR	223 KD PROTEIN	POTATO VIRUS M (STRAIN RUSSIAN)	87-104	986-1009	1251-1270	1893-1909					
PVOR1_PVSP	223 KD PROTEIN	POTATO VIRUS S (STRAIN PERUVIAN)	279-295								
PVOR1_PVX	165 KD PROTEIN	POTATO VIRUS X	128-153	234-256	306-322	1010-1030					
PVOR1_PVXCP	165 KD PROTEIN	POTATO VIRUS X (STRAIN CP)	128-153	234-256	306-322	385-404	1010-1030				
PVOR1_PVXXI	165 KD PROTEIN	POTATO VIRUS X (STRAIN XI)	128-153	234-256	306-322	1010-1030					
PVOR1_SMYEA	150 KD PROTEIN	OS STRAWBERRY MILD YELLOW EDGE-ASSOCIATED VIRUS	121-148	155-175							
PVOR1_WCMVM	147 KD PROTEIN	WHITE CLOVER MOSAIC VIRUS (STRAIN M)	121-146								
PVOR1_WCMVO	147 KD PROTEIN	WHITE CLOVER MOSAIC VIRUS (STRAIN O)	121-146	408-430							
PVP03_HSVBA	PROBABLE MEMBRANE ANTIGEN 3	HERPESVIRUS SAIMIRI (STRAIN 11)	424-446	462-486	551-575	579-595	1051-1072				
PVP10_NPVAC	P10 PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	4-26	42-59							
PVP10_NPVOP	P10 PROTEIN	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	4-31								
PVP10_NPVSE	P10 PROTEIN	SPODOPTERA EXIGUA NUCLEAR POLYHEDROSIS VIRUS (STRAIN US)	35-58								
PVP10_RBSDV	PROTEIN S10	RICE BLACK STREAKED DWARF VIRUS	31-49	52-77	105-129	195-214	260-283	504-528			
PVP10_WTV	NONSTRUCTURAL PROTEIN PNS10	WOUND TUMOR VIRUS (WTV)	90-107	265-291							
PVP14_EBV	PROBABLE MEMBRANE ANTIGEN P140	EPSTEIN-BARR VIRUS (STRAIN B95-8)	694-715	857-879	1124-1145						
PVP19_EBV	PROB CAPSID ASSEMBLY AND DNA MATUR PROTE	EPSTEIN-BARR VIRUS (STRAIN B95-8)		346-364							
PVP19_HCMVA	PROB CAPSID ASSEMBLY AND DNA MATUR PROTE	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	77-101	122-149	200-216						
PVP19_HSVBA	PROB CAPSID ASSEMBLY AND DNA MATUR PROTE	HERPESVIRUS SAIMIRI (STRAIN 11)	238-265								
PVP19_VZVD	CAPSID ASSEMBLY AND DNA MATUR PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	5-31								
PVP1_SSV1	STRUCTURAL PROTEIN VP1 PRECURSOR	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	8-35								
PVP21_AMCV	CORE PROTEIN P21	ARTICHOKE MOTTLED CRINKLE VIRUS	37-63								
PVP21_CMV	CORE PROTEIN P21	CUCUMBER NECROSIS VIRUS	40-65								
PVP21_CRV	CORE PROTEIN P21	CYMBIDIUM RINGSPOT VIRUS	40-63								
PVP21_TBSVC	CORE PROTEIN P21	TOMATO BUSHY STUNT VIRUS (STRAIN CHERRY)	40-63								
PVP23_HCMVA	PROBABLE CAPSID PROTEIN VP23	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	141-165	187-202	261-282						
PVP23_HSV11	CAPSID PROTEIN VP23	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	197-220								
PVP23_HSV6U	PROBABLE CAPSID PROTEIN VP23	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	206-232								

PCGENE	PIRCTL2IP	All Viruses (No Bacteriophages)									
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVP23_VZVD	PROBABLE CAPSID PROTEIN VP23	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	117-132								
PVP26_NPVAC	P26 PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	12-31	58-76	117-141						
PVP2_AHSV4	OUTER CAPSID PROTEIN VP2	AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4 / STRAIN VACCINE)	868-891	974-994							
PVP2_BTV10	OUTER CAPSID PROTEIN VP2	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	361-381	399-424	564-586	829-849					
PVP2_BTV11	OUTER CAPSID PROTEIN VP2	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	361-381	399-424	829-849						
PVP2_BTV13	OUTER CAPSID PROTEIN VP2	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	362-382	420-438	617-632	657-678					
PVP2_BTV17	OUTER CAPSID PROTEIN VP2	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	361-381								
PVP2_BTV1A	OUTER CAPSID PROTEIN VP2	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE AUSTRALIA)	420-438	654-681							
PVP2_BTV1S	OUTER CAPSID PROTEIN VP2	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE SOUTH AFRICA)	14-31	117-140	420-438	654-681					
PVP2_EHDV1	OUTER CAPSID PROTEIN VP2	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1)	153-168	229-252							
PVP2_ROTBR	RNA-BINDING PROTEIN VP2	BOVINE ROTAVIRUS (STRAIN RF)	301-317	334-360	522-543	673-699	764-789				
PVP2_ROTBU	RNA-BINDING PROTEIN VP2	BOVINE ROTAVIRUS (STRAIN UK)	301-317	334-360	523-544	765-790					
PVP2_ROTHW	RNA-BINDING PROTEIN VP2	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	309-325	342-365	532-553	674-700	774-799				
PVP2_ROTPC	RNA-BINDING PROTEIN VP2	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	51-75	303-319	408-425	514-535	665-691				
PVP2_ROTSI	RNA-BINDING PROTEIN VP2	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	34-57	219-240	302-318	335-361	523-544	674-700	765-790		
PVP30_MABVP	MINOR NUCLEOPROTEIN VP30	MARBURG VIRUS (STRAIN MUSOKE)	50-75								
PVP32_ASFB7	PHOSPHOPROTEIN P32	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)	174-197								
PVP35_EBOV	POLYMERASE COMPLEX PROTEIN VP35	EBOLA VIRUS	233-256								
PVP35_MABVM	POLYMERASE COMPLEX PROTEIN VP35	MARBURG VIRUS (STRAIN MUSOKE)	49-75	78-104							
PVP35_MABVP	POLYMERASE COMPLEX PROTEIN VP35	MARBURG VIRUS (STRAIN POPP)	49-75	78-104							
PVP35_VACCC	IMMUNODOMINANT ENVELOPE PROTEIN P35	VACCINIA VIRUS (STRAIN COPENHAGEN)	278-304								
PVP35_VACCV	IMMUNODOMINANT ENVELOPE PROTEIN P35	VACCINIA VIRUS (STRAIN WR)	278-304								
PVP35_VARV	IMMUNODOMINANT ENVELOPE PROTEIN P35	VARIOLA VIRUS	279-305								
PVP38_HSVMD	38 KD PHOSPHOPROTEIN	MAREK'S DISEASE HERPESVIRUS (STRAIN GA)	255-270								
PVP38_HSVMN	38 KD PHOSPHOPROTEIN	MAREK'S DISEASE HERPESVIRUS (STRAIN MD11/75C/RL2)	255-270								
PVP39_NPVAC	MAJOR CAPSID PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	296-311								
PVP39_NPVOP	MAJOR CAPSID PROTEIN	OROYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	107-134	214-240	295-316						
PVP3_AHSV4	VP3 CORE PROTEIN	AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4/STRAIN VACCINE)	65-85	126-147	215-230	845-862					
PVP3_BTV10	VP3 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	123-144	212-227							
PVP3_BTV17	VP3 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	123-144	212-227							
PVP3_BTV1A	VP3 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE AUSTRALIA)	123-144	212-227							
PVP3_EHDV1	VP3 CORE PROTEIN	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1)	121-142	671-695							
PVP3_EHDVA	VP3 CORE PROTEIN	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 2/STRAIN AUS	121-142	675-695							
PVP3_RDV	MAJOR 114 KD STRUCTURAL PROTEIN	RICE DWARF VIRUS (RDV)	99-108	340-360	367-393	690-717	742-768	768-768	960-975		
PVP3_ROTPC	INNER CORE PROTEIN VP3	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	405-429								
PVP3_ROTSI	INNER CORE PROTEIN VP3	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	401-425	426-444	512-536	796-822					
PVP40_EBV	CAPSID PROTEIN P40	EPSTEIN-BARR VIRUS (STRAIN B95-8)	429-454								
PVP40_HSV11	CAPSID PROTEIN P40	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	141-168	472-492							
PVP40_HSVEB	CAPSID PROTEIN P40	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	50-67	95-119	483-504						
PVP40_HSVLA	CAPSID PROTEIN P40	HERPESVIRUS SAIMIRI (STRAIN 11)	343-368								
PVP40_ILTVT	CAPSID PROTEIN P40	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN THORNE V882)	506-528								
PVP40_MABVM	MATRIX PROTEIN VP40	MARBURG VIRUS (STRAIN MUSOKE)	95-110								
PVP40_MABVP	MATRIX PROTEIN VP40	MARBURG VIRUS (STRAIN POPP)	95-110								
PVP40_NPVBM	STRUCTURAL GLYCOPROTEIN P40	BOMBYX MORI NUCLEAR POLYHEDROSIS VIRUS	223-242	256-272							
PVP40_VZVD	CAPSID PROTEIN VP24	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	47-64								
PVP41_NPVAC	STRUCTURAL GLYCOPROTEIN GP41	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	229-248	262-278							
PVP41_ROTSI	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	483-508								
PVP42_ROTSI	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	395-411	483-508							
PVP47_NPVAC	VIRAL TRANSCRIPTION REGULATOR P47	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	14-38								
PVP48_NPVOP	P48 PROTEIN	OROYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	136-157								
PVP4A_VARV	MAJOR CORE PROTEIN P4A PRECURSOR	VARIOLA VIRUS	273-288								
PVP4B_VACCC	MAJOR CORE PROTEIN P4B PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	331-358								
PVP4B_VACCV	MAJOR CORE PROTEIN P4B PRECURSOR	VACCINIA VIRUS (STRAIN WR)	331-358								
PVP4B_VARV	MAJOR CORE PROTEIN P4B PRECURSOR	VARIOLA VIRUS	331-358								
PVP4_BTV10	VP4 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	174-193	233-249	545-561						
PVP4_BTV11	VP4 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	174-193	233-249	535-551						
PVP4_BTV13	VP4 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	174-193	233-249	535-551						

PCGENE	P13CTL2IP	All Viruses (No Bacteriophages)									
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVP4_BTV2A	VP4 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	174-193	233-249	535-551						
PVP4_NCDV	OUTER CAPSID PROTEIN VP4	NEBRASKA CALF DIARRHEA VIRUS (STRAIN NCDV-LINCOLN)	483-508								
PVP4_RDV	NONSTRUCTURAL PROTEIN PNS4	RICE DWARF VIRUS	386-407	493-514	626-645						
PVP4_ROTB4	OUTER CAPSID PROTEIN VP4	BOVINE ROTAVIRUS (SEROTYPE 6 / STRAIN B641)	483-508								
PVP4_ROTBC	OUTER CAPSID PROTEIN VP4	BOVINE ROTAVIRUS (STRAIN C486)	483-508								
PVP4_ROTBU	OUTER CAPSID PROTEIN VP4	BOVINE ROTAVIRUS (STRAIN UK)	483-508								
PVP4_ROTEH	OUTER CAPSID PROTEIN VP4	EQUINE ROTAVIRUS (STRAIN H-2)	226-250	483-508							
PVP4_ROTH1	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN 1076)	181-207	234-249	482-507						
PVP4_ROTH3	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN RV-3)	181-207	234-249	482-507						
PVP4_ROTH8	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN 69M)	483-508								
PVP4_ROTHD	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN DS1)	181-207	234-249	482-507						
PVP4_ROTHJ	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (STRAIN KB)	483-508	524-548							
PVP4_ROTHK	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (STRAIN KU)	76-91	181-207	234-249	482-507					
PVP4_ROTHL	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (STRAIN L26)	181-207	234-249	482-507						
PVP4_ROTHM	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN M37)	181-207	234-249	482-507						
PVP4_ROTHN	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN MCN13)	181-208	235-250	483-508						
PVP4_ROTHP	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN P)	181-207	234-249	482-507						
PVP4_ROTHT	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN ST THOMAS 3)	181-207	234-249	482-507						
PVP4_ROTHV	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN VA70)	181-207	482-507							
PVP4_ROTHW	OUTER CAPSID PROTEIN VP4	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	181-207	482-507							
PVP4_ROTPS	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (SEROTYPE 5 / STRAIN OSU)	235-250	483-508							
PVP4_ROTPC	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	487-512								
PVP4_ROTPG	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (STRAIN GOTTFRIED)	234-249	482-507							
PVP4_ROTPY	OUTER CAPSID PROTEIN VP4	PORCINE ROTAVIRUS (STRAIN YM)	235-250	483-508							
PVP4_ROTRH	OUTER CAPSID PROTEIN VP4	RHESUS ROTAVIRUS	483-508								
PVP4_ROTSF	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11-FEM)	483-508								
PVP4_ROTSS	OUTER CAPSID PROTEIN VP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11-SEM)	395-411	483-508							
PVP4_SBMV	P4 PROTEIN	SOUTHERN BEAN MOSAIC VIRUS	90-114								
PVP4_WTV	NONSTRUCTURAL PROTEIN PNS4	WOUND TUMOR VIRUS	192-215	416-438	498-519	564-591					
PVP5_BTV10	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	295-317	326-345	494-517						
PVP5_BTV11	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	295-317	326-345	494-517						
PVP5_BTV13	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	295-317	494-517							
PVP5_BTV1A	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE AUSTRALIA)	87-102	295-317							
PVP5_BTV1S	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE SOUTH AFRICA)	295-317								
PVP5_BTV2A	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	295-317								
PVP5_RDV	OUTER COAT PROTEIN P5	RICE DWARF VIRUS	265-284	622-639	690-715						
PVP61_BTV10	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	9-27	232-249	261-276						
PVP61_NPVAC	61 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	321-337	438-462							
PVP62_BTV10	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	5-23	257-272							
PVP62_MRDV	PROB NONSTRUCTURAL 36 3 KD PROTEIN	MAIZE ROUGH DWARF VIRUS	130-146								
PVP64_NPVOP	MAJOR ENV GLYCOPROTEIN PREC	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	81-99	235-252	286-313						
PVP67_NPVAC	MAJOR ENV GLYCOPROTEIN PREC	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	84-102	238-255							
PVP67_NPVGM	MAJOR ENVELOPE GLYCOPROTEIN	GALLERIA MELLONELLA NUCLEAR POLYHEDROSIS VIRUS	153-172								
PVP6_BTV11	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	5-23	228-245	257-272						
PVP6_BTV13	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	5-23	228-245	257-272						
PVP6_BTV17	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	5-23	228-245	257-272						
PVP6_BTV1S	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE SOUTH AFRICA)	9-27	232-249	261-276						
PVP6_BTV2A	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	204-221	233-248							
PVP6_WTV	STRUCTURAL PROTEIN P6	WOUND TUMOR VIRUS	374-397								
PVP6_WTVNI	STRUCTURAL PROTEIN P6	WOUND TUMOR VIRUS (STRAIN NI)	374-397								
PVP74_NPVAC	P74 PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	254-275								
PVP75_HSV1A	PROBABLE MEMBRANE ANTIGEN 75	HERPESVIRUS SAIMIRI (STRAIN 11)	127-147								
PVP79_NPVAC	79 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	274-301	405-420	678-704						
PVP7_BTV13	VP7 CORE PROTEIN	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	197-222								
PVP7_EHDV1	VP7 CORE PROTEIN	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1)	205-222	301-323							
PVP7_RDV	NONSTRUCTURAL PROTEIN PNS7	RICE DWARF VIRUS	400-416								
PVP7_WTV	NONSTRUCTURAL PROTEIN PNS7	WOUND TUMOR VIRUS	262-285								

ACCESSION	PIR CLASS	(All Viruses (No Bacteriophages))								
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1
PVPR0_NPVAC	CAPSID PROTEIN P80	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	98-123	611-660						
PVPR7_NPVOP	CAPSID PROTEIN P31	OROYTA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	571-593							
PVPR_BTV10	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	104-120							
PVPR_BTV11	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	104-120							
PVPR_BTV13	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	104-120							
PVPR_BTV17	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	104-120							
PVPR_BTV18	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE AUSTRALIA)	104-120							
PVPR_BTV2A	NONSTRUCTURAL PROTEIN P8	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE SOUTH AFRICA)	104-120							
PVPR_EDV	OUTER CAPSID PROTEIN P4 (	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	104-120							
PVPR_EDDV	OUTER CAPSID PROTEIN P8	RICE DWARF VIRUS	374-400							
PVPR_VACCC	STRUCTURAL PROTEIN VP8 PRECURSOR	RICE GALL DWARF VIRUS	177-202	316-342	398-423					
PVPR_VACCV	STRUCTURAL PROTEIN VP8 PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	225-242							
PVPR_VACV	STRUCTURAL PROTEIN VP8 PRECURSOR	VACCINIA VIRUS (STRAIN WR)	225-242							
PVPR_WTV	OUTER CAPSID PROTEIN P8	VARIOLA VIRUS	225-242							
PVPR_EDV	NONSTRUCTURAL PROTEIN PNS9	WOUND TUMOR VIRUS	111-129	214-241	251-271	379-405				
PVPR_EDDV	NONSTRUCTURAL PROTEIN S9	RICE DWARF VIRUS	51-72							
PVPR8_NPVAC	39 KD POLYHEDRAL ENVELOPE PROTEIN	RICE GALL DWARF VIRUS	151-175							
PVPR8_NPVOP	32 KD POLYHEDRAL ENVELOPE PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	145-166	225-245						
PVPR7_ADE13	ENDOPROTEASE	OROYTA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS	122-144							
PVPR7_ADHVB	PROTEASE	HUMAN ADENOVIRUS TYPE 12	161-181							
PVPR7_BPMV	PROTEASE	MOUSE MAMMARY TUMOR VIRUS (STRAIN BR6)	42-65							
PVPR7_EAIVN	PROTEASE	SIMIAN MASON-PFIZER VIRUS	80-99							
PVPR7_SIVI	PROTEASE	SQUIRREL MONKEY RETROVIRUS	256-271							
PVPU_HV1B1	VPU PROTEIN	SIMIAN RETROVIRUS SRV-1	80-99							
PVPU_HV1BB	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH10 ISOLATE IIIB1))	13-37							
PVPU_HV1BN	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH8 ISOLATE)	4-27							
PVPU_HV1BR	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRAIN ISOLATE)	3-28							
PVPU_HV1EL	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRU ISOLATE)	3-27							
PVPU_HV1HB	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE)	3-26							
PVPU_HV1JR	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (IIIRB2 ISOLATE)	4-27							
PVPU_HV1MA	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (JRCSF ISOLATE)	3-28							
PVPU_HV1ON	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NIAI ISOLATE)	2-27							
PVPU_HV1ND	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NIH ISOLATE)	3-30							
PVPU_HV1PV	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (NDK ISOLATE)	3-28							
PVPU_HV11	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PV22 ISOLATE)	3-27							
PVPU_HV1SC	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SF162 ISOLATE)	3-28							
PVPU_HV1Z3	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (SC ISOLATE)	3-28							
PVPU_SIV	VPU PROTEIN	SHEEP PULMONARY ADENOMATOSIS VIRUS (JAAGSIEKTE SHEEP RET	3-28							
PVPX_HV2BE	VPX PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE BEN)	24-45							
PVPX_HV2CA	VPX PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE CAM3)	10-32							
PVPX_HV2D1	VPX PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D194)	10-32							
PVPX_HV2D2	VPX PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D205.7)	10-32							
PVPX_HV2G1	VPX PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE GHANA-1)	9-31							
PVPX_HV2N2	VPX PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NIH-Z)	10-32							
PVPX_HV2R0	VPX PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ROD)	10-32							
PVPX_HV2S1	VPX PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE SBL/ISY)	10-32							
PVPX_HV2T	VPX PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST)	10-32							
PVPX_LDV	VPX PROTEIN	LACTATE DEHYDROGENASE-ELEVATING VIRUS	145-165							
PVPX_SIVAI	VPX PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE AGM / CLONE GRI-1) (S166-84								
PVPX_SIVAK	VPX PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (NA1142-83 ISOLATE) (SIV-MAC)	10-32							
PVPX_SIVAL	VPX PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (KAW ISOLATE) (SIV-MAC)	10-32							
PVPX_SIVM	VPX PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (K78 ISOLATE) (SIV-MAC)	10-32							
PVPX_SIVS	VPX PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (F236/SMM4 ISOLATE) (SOOTY M	10-32							
PVUNA_BLMV	ALPHA-A PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PBJ/BC1) ISOLATE) (SOOTY MA	10-32							
PVSG9_EOTBR	NONSTRUCTURAL PROTEIN NCVP2	BARLEY STRIPE MOSAIC VIRUS (BSMV)	290-312	504-520						
		BOVINE ROTAVIRUS (STRAIN RF)	140-157	461-487						

FCGENE	P1SCTL2IP	All Viruses (No Bacteriophages)									
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PVS05_ROTIG	NONSTRUCTURAL PROTEIN NCVP2	HUMAN ROTAVIRUS (STRAIN IGV-80-1)	140-157	428-450	457-473						
PVS05_ROTPC	NONSTRUCTURAL PROTEIN NS53	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	88-112								
PVS05_ROTSI	NONSTRUCTURAL PROTEIN NCVP2	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	399-414								
PVS06_ROTBR	VP6 PROTEIN	BOVINE ROTAVIRUS (STRAIN RF)	202-225								
PVS06_ROTBS	VP6 PROTEIN	BOVINE ROTAVIRUS (GROUP C / STRAIN SHINTOKU)	64-85								
PVS06_ROTBU	VP6 PROTEIN	BOVINE ROTAVIRUS (STRAIN UK)	202-225								
PVS06_ROTEF	VP6 PROTEIN	EQUINE ROTAVIRUS (STRAIN FI-14)	202-225								
PVS06_ROTEH	VP6 PROTEIN	EQUINE ROTAVIRUS (STRAIN H-2)	202-225								
PVS06_ROTGA	VP6 PROTEIN	ROTAVIRUS (GROUP B / STRAIN ADRV) (ADULT DIARRHEA ROTAVIRU	22-40								
PVS06_ROTGI	VP6 PROTEIN	ROTAVIRUS (GROUP B / STRAIN IDIR)	22-40								
PVS06_ROTH1	VP6 PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN 1076)	202-225								
PVS06_ROTHC	VP6 PROTEIN	HUMAN ROTAVIRUS (GROUP C / STRAIN BRISTOL)	64-85								
PVS06_ROTHS	VP6 PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN S2)	202-225								
PVS06_ROTHW	VP6 PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	202-225								
PVS06_ROTPC	VP6 PROTEIN	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	64-85	314-340							
PVS06_ROTPG	VP6 PROTEIN	PORCINE ROTAVIRUS (STRAIN GOTTFRIED)	202-225								
PVS07_ROTBJ	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (STRAIN KN-4)	131-155								
PVS08_ROTPC	GLYCOPROTEIN VP7 PRECURSOR	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	117-136								
PVS08_ROTSI	NONSTRUCTURAL PROTEIN NCVP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	276-295								
PVS09_ROTB6	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (SEROTYPE 6 / STRAIN 61A)	131-155								
PVS09_ROTBA	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (STRAIN A44)	131-155								
PVS09_ROTBB	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (SEROTYPE 10 / STRAIN B223)	131-155								
PVS09_ROTBK	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (STRAIN KK3)	131-155								
PVS09_ROTBT	GLYCOPROTEIN VP7	BOVINE ROTAVIRUS (SEROTYPE 1 / STRAIN T449)	131-155								
PVS09_ROTC7	GLYCOPROTEIN VP7	CHICKEN ROTAVIRUS A (SEROTYPE 7 / STRAIN CH2)	134-158								
PVS09_ROTEL	GLYCOPROTEIN VP7	EQUINE ROTAVIRUS (STRAIN L338)	131-155								
PVS09_ROTGI	GLYCOPROTEIN VP7 PRECURSOR	ROTAVIRUS (GROUP B / STRAIN IDIR)	205-232								
PVS09_ROTH4	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN RV-4)	131-155	197-212							
PVS09_ROTHA	GLYCOPROTEIN VP7 (	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN HUS)	197-212								
PVS09_ROTHD	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN DS1)	197-212								
PVS09_ROTHH	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN HN126)	197-212								
PVS09_ROTHL	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (STRAIN L26)	131-155	197-212							
PVS09_ROTHM	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN M37)	131-155	197-212							
PVS09_ROTHO	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN MO AND STRAIN D)	131-155	197-212							
PVS09_ROTHP	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN P)	131-155								
PVS09_ROTHR	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 3 / STRAIN RRV)	131-155								
PVS09_ROTHS	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN S2)	197-212								
PVS09_ROTHV	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN VA70)	197-212								
PVS09_ROTHW	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)	131-155	197-212							
PVS09_ROTP5	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 5 / STRAIN OSU)	131-155	197-212							
PVS09_ROTP6	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 3 / STRAIN TFR-41)	131-155								
PVS09_ROTPB	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 4 / STRAIN BEN-144)	197-212								
PVS09_ROTPM	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 4 / STRAIN BMI-1)	197-212								
PVS09_ROTRH	GLYCOPROTEIN VP7	RHESUS ROTAVIRUS	131-155								
PVS09_ROTSI	GLYCOPROTEIN VP7	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	131-155								
PVS11_ROTGA	NONSTRUCTURAL PROTEIN	ROTAVIRUS (GROUP B / STRAIN ADRV) (ADULT DIARRHEA ROTAVIRU	136-153								
PVSH_HRSVA	SMALL HYDROPHOBIC PROTEIN	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	16-41								
PVSH_MUMPI	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN SBL-1), AND MUMPS VIRUS (STRAIN SBL)	7-29								
PVSH_MUMP2	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN EDINGBURGH 2 & 6)	7-29								
PVSH_MUMP4	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN EDINGBURGH 4)	7-29								
PVSH_MUMPA	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN MATSUYAMA)	10-29								
PVSH_MUMPB	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN BELFAST)	7-29								
PVSH_MUMPE	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN ENDERS)	7-29								
PVSH_MUMPJ	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN JERYL-LYNN)	7-29								
PVSH_MUMPK	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN KILHAM)	7-29								
PVSH_MUMPL	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN BRISTOL 1)	6-29								
PVSH_MUMPM	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	10-29								

PCCENT	PIRCLEIP	All Viruses (No Bacteriophages)								
FILE_NAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PV3H_MUMPA	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN RW)	7-29							
PV3H_MUMPT	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN TAKAJASHI)	10-29							
PV3H_MUMJU	SMALL HYDROPHOBIC PROTEIN	MUMPS VIRUS (STRAIN URABE VACCINE AM9)	10-29							
PV3I1_REOVL	SIGMA 1 PROTEIN PRECURSOR	REOVIRUS (TYPE 1 / STRAIN LANG)	10-59							
PV3I2_REOVS	SIGMA 2 PROTEIN	REOVIRUS (TYPE 1 / STRAIN LANG)	118-134							
PV3I3_REOVI	SIGMA 3 PROTEIN	REOVIRUS (TYPE 2 / STRAIN DEARING)	132-170							
PV3I3_REOVL	SIGMA 3 PROTEIN	REOVIRUS (TYPE 2 / STRAIN DSOONES)	132-170							
PV3I3_REOVL	SIGMA 1S PROTEIN	REOVIRUS (TYPE 1 / STRAIN LANG)	132-170							
PV3T3_HEVBU	STRUCTURAL PROTEIN 2 PRECURSOR	REOVIRUS (TYPE 1 / STRAIN LANG)	96-101							
PV3T3_HEVMB	STRUCTURAL PROTEIN 2 PRECURSOR	HEPATITIS E VIRUS (STRAIN BURMA)	292-311							
PV3T3_HEVMY	STRUCTURAL PROTEIN 2 PRECURSOR	HEPATITIS E VIRUS (STRAIN MEXICO)	292-311							
PV3T3_HEVPA	STRUCTURAL PROTEIN 2 PRECURSOR	HEPATITIS E VIRUS (STRAIN MYANMAR)	292-311							
PV3T3_HEVAN	STRUCTURAL PROTEIN 2	HEPATITIS E VIRUS (STRAIN PAKISTAN)	292-311							
PV3_MYXVL	TUMOR NECROSIS FACTOR SOL RECEPTOR PREC	HEPATITIS E VIRUS (ISOLATE BJESUS)	160-179							
PV3_SFVRA	TUMOR NECROSIS FACTOR SOL RECEPTOR PREC	MYXOMA VIRUS (STRAIN LAUSANNE)	261-283							
PV3A_CAPVI	PROTEIN 3A	SHOPE FIBROMA VIRUS (STRAIN KASZA)	270-289							
PV3A_SFVRA	3A PROTEIN	CAPRIPOXVIRUS (STRAIN NS-1)	116-138							
PV3EA_SV	PROBABLE DNA PACKAGING PROTEIN	SHOPE FIBROMA VIRUS (STRAIN KASZA)	123-148							
PV3EA_HCMVA	PROBABLE DNA PACKAGING PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	111-139	166-192	227-250					
PV3EA_HSV11	PROBABLE DNA PACKAGING PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	409-430							
PV3EA_HSVSB	PROBABLE DNA PACKAGING PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	363-380	637-658						
PV3EA_HSVEB	PROBABLE DNA PACKAGING PROTEIN	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	266-278							
PV3EB_HSVEA	PROBABLE DNA PACKAGING PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)	364-381							
PV3EB_HSVEA	PROBABLE DNA PACKAGING PROTEIN	ICTALURID HERPESVIRUS 1	309-333	376-397						
PV3EB_VZVD	PROBABLE DNA PACKAGING PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	216-241							
PX_IPPOS	PROTEIN X	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)	372-389							
PX_WRV1	PROTEIN X	ORF VIRUS (STRAIN NZ2)	68-85							
PX_WRV99	PROTEIN X	WOODCHUCK HEPATITIS VIRUS 1	68-85							
PX_WRV7	PROTEIN X	WOODCHUCK HEPATITIS VIRUS 39	68-85							
PX_WRV8	PROTEIN X	WOODCHUCK HEPATITIS VIRUS 9	68-85							
PX_WRV96	PROTEIN X	WOODCHUCK HEPATITIS VIRUS 1	68-85							
PY10A_ADE07	HYPOTHETICAL 10 4 KD EARLY PROTEIN	WOODCHUCK HEPATITIS VIRUS 1 (INFECTIOUS CLONE)	68-85							
PY10I_ASV1	HYPOTHETICAL 10 8 KD PROTEIN	WOODCHUCK HEPATITIS VIRUS W64 (ISOLATE PW523)	68-85							
PY10K_ADE07	HYPOTHETICAL 10 8 KD PROTEIN	HUMAN ADENOVIRUS TYPE 7	55-73							
PY10K_ASV8	HYPOTHETICAL 10 9 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	66-90							
PY11I_ASV1	HYPOTHETICAL 11 1 KD PROTEIN	MAIZE STREAK VIRUS (SOUTH-AFRICAN ISOLATE)	24-47							
PY11K_PAJV	HYPOTHETICAL 11 9 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	43-59							
PY12K_BNYVD	RNA-3 HYPOTHETICAL 11 6 KD PROTEIN	PANICUM STREAK VIRUS	28-52							
PY13K_CMVBI	HYPOTHETICAL 12 4 KD PROTEIN	BEET NECROTIC YELLOW VEIN MOSAIC VIRUS (ISOLATE G1)	13-42							
PY13J_ADE05	HYPOTHETICAL PROTEIN B-13J7	CYMBIDIUM MOSAIC VIRUS (STRAIN SINGAPORE)	8-30							
PY13K_CLVK	HYPOTHETICAL 13 1 KD PROTEIN	HUMAN ADENOVIRUS TYPE 2	28-50							
PY13K_CLVN	HYPOTHETICAL 13 1 KD PROTEIN	CASSAVA LATENT VIRUS (STRAIN WEST KENYAN 844)	34-55							
PY13K_TYLCM	HYPOTHETICAL 13 3 KD PROTEIN	CASSAVA LATENT VIRUS (STRAIN NIGERIAN)	34-55							
PY13K_TYLCV	HYPOTHETICAL 13 4 KD PROTEIN	TOMATO YELLOW LEAF CURL VIRUS (STRAIN MARMANDE)	10-27							
PY14I_ADE07	HYPOTHETICAL 14 3 KD EARLY PROTEIN	TOMATO YELLOW LEAF CURL VIRUS	34-55							
PY14K_CSMV	HYPOTHETICAL 14 5 KD PROTEIN	HUMAN ADENOVIRUS TYPE 7	108-132							
PY14K_SSV1	HYPOTHETICAL 14 8 KD PROTEIN	CHLORIS STRIATE MOSAIC VIRUS	54-80							
PY20A_ADE07	HYPOTHETICAL 20 4 KD EARLY PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	100-125	141-162						
PY23K_BNYVB	RNA-3 HYPOTHETICAL 24 7 KD PROTEIN	HUMAN ADENOVIRUS TYPE 7	50-73							
PY29K_NPVAC	HYPOTHETICAL 29 9 KD PROTEIN	BEET NECROTIC YELLOW VEIN MOSAIC VIRUS (ISOLATE F2)	163-188							
PY2_SOCMV	HYPOTHETICAL PROTEIN 2	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	90-106							
PY31K_SSV1	HYPOTHETICAL 31 1 KD PROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	63-90							
PY4K0_SSV1	HYPOTHETICAL 6 0 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	122-142							
PY7K4_VACCV	HYPOTHETICAL 7 4 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	23-44							
PY7K_MEASH	HYPOTHETICAL 7 KD PROTEIN	VACCINIA VIRUS (STRAIN WR)	21-36							
PY7_SOCMV	HYPOTHETICAL PROTEIN 7	MEASLES VIRUS (STRAIN HALLE)	3-25							
PY81K_SSV1	HYPOTHETICAL 81 7 KD PROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	96-120							
		SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	86-105	155-173	343-363	637-655	764-784			

PCCENE	P1CCTLZIP	All Viruses (No Bacteriophages)									
TITLE NAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8	AREA9
PYU_SOCMV	HYPOTHETICAL PROTEIN 1	SOYBEAN CHLOROTIC MOTTLE VIRUS	10-27								
PYP7_ADE07	HYPOTHETICAL 9.7 KD EARLY PROTEIN	HUMAN ADENOVIRUS TYPE 7	54-77								
PYM2_SSV1	HYPOTHETICAL 9.2 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	16-41	62-77							
PYAL1_EBV	HYPOTHETICAL BALF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	265-280								
PYB81_FOWPM	HYPOTHETICAL BAMR-ORF1 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	354-374								
PYB69_FOWPM	HYPOTHETICAL BAMR-ORF1 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	104-121								
PYB10_FOWPM	HYPOTHETICAL BAMR-ORF10 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	49-67								
PYB12_FOWPM	HYPOTHETICAL BAMR-ORF12 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	84-100								
PYBL3_EVZL	BEL3 PROTEIN	SIMIAN FOAMY VIRUS (TYPE 3) / STRAIN LK3)	114-134	134-169							
PYBL3_FOAMV	BEL3 PROTEIN	HUMAN SPUMARETROVIRUS	113-128								
PYBMT_HSV2C	HYP 28.7 KD PROTEIN IN DNPA 3'REGION	HERPESVIRUS SAIMIRI (SUBGROUP C / STRAIN 488)	52-78								
PYBMD_HSV2C	HYP 19.5 KD PROTEIN IN DNPA 3'REGION	HERPESVIRUS SAIMIRI (SUBGROUP C / STRAIN 488)	206-226								
PYBC4_EBV	HYPOTHETICAL BCRF4 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	69-90								
PYQA1_HSV2B	HYPOTHETICAL 33.0 KD PROTEIN	HERPESVIRUS (STRAIN BC-1)	200-223								
PYQA1_HSV2HG	HYPOTHETICAL 33.0 KD PROTEIN	MARET DISEASE HERPESVIRUS (STRAIN BC-1)	115-130								
PYQA1_HCMVA	HYPOTHETICAL PROTEIN HRLF4	MAREK'S DISEASE HERPESVIRUS (STRAIN MD5)	175-190								
PYHU3_VACCV	KYP HOST RANGE 37.4 KD PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	101-121								
PYQ0_CVMA5	HYP PROTEIN IN NUCLEOCAPSID ONF	VACCINIA VIRUS (STRAIN WR)	86-103								
PYQ0_CVMI	HYP PROTEIN IN NUCLEOCAPSID MHV	MURINE CORONAVIRUS MHV	141-154								
PYQ0_CVMS	HYP PROTEIN IN NUCLEOCAPSID MHV	MURINE CORONAVIRUS MHV	141-154								
PYQ1D_EBV	HYPOTHETICAL BRLF1 PROTEIN	MURINE CORONAVIRUS MHV	5-33								
PYL13_ADE41	HYPOTHETICAL 100 KD PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	67-90								
PYA0R3_EBV	BALF3 PROTEIN	HUMAN ADENOVIRUS TYPE 41	53-73								
PYA4P_EBV32	HYPOTHETICAL 15.9 KD PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	76-100	128-155	215-241	330-358					
PYQA1_ADE01	HYPOTHETICAL PROTEIN	SIMULTUM IRIDESCENT VIRUS (INSECT IRIDESCENT VIRUS TYPE 22)	23-46								
PYQA1_CQYAV	HYPOTHETICAL 25 KD PROTEIN	AVIAN ADENOVIRUS GAL (STRAIN PHELPS) (FOWL ADENOVIRUS 1)	99-80								
PYQA1_TTV1	HYPOTHETICAL 9.9 KD PROTEIN	COMMELINA YELLOW MOTTLE VIRUS	54-83								
PYQA3_CQYAV	HYPOTHETICAL 11.0 KD PROTEIN	THEILOPROTEUS TENAX VIRUS 1 (STRAIN KAA1)	13-40								
PYQA0_EAV	HYPOTHETICAL 35.0 KD PROTEIN	COMMELINA YELLOW MOTTLE VIRUS	23-49								
PYQA2_EEV	HYPOTHETICAL 28.8 KD PROTEIN	EQUINE ARTERITIS VIRUS	165-192								
PYQA1_LVX	HYPOTHETICAL 11.1 KD PROTEIN	LELYSTAD VIRUS	196-213								
PYQA0_NMV	HYPOTHETICAL 14 KD PROTEIN	LILY VIRUS X	71-92								
PYQA0_PVX	HYPOTHETICAL 12 KD PROTEIN	NARCISSUS MOSAIC VIRUS	7-30								
PYQA0_PVX2	HYPOTHETICAL 12 KD PROTEIN	POTATO VIRUS X	11-34								
PYQA0_WCMVM	HYPOTHETICAL 13 KD PROTEIN	POTATO VIRUS X (STRAIN CH)	11-34								
PYQA0_WCMVO	HYPOTHETICAL 13 KD PROTEIN	WHITE CLOVER MOSAIC VIRUS (STRAIN M)	9-29								
PYQA1_ADE01	HYPOTHETICAL 31.1 KD PROTEIN	WHITE CLOVER MOSAIC VIRUS (STRAIN O)	8-31								
PYQA0_EAV	HYPOTHETICAL 28.7 KD PROTEIN	AVIAN ADENOVIRUS GAL (STRAIN PHELPS) (FOWL ADENOVIRUS 1)	69-86								
PYQA0_NMV	HYPOTHETICAL 10 KD PROTEIN	EQUINE ARTERITIS VIRUS	139-158								
PYQA0_TTV1	HYPOTHETICAL 16.0 KD PROTEIN	NARCISSUS MOSAIC VIRUS	10-26								
PYQA0_TTV1	HYPOTHETICAL 14.1 KD PROTEIN	THEILOPROTEUS TENAX VIRUS 1 (STRAIN KAA1)	13-32								
PYQA4_TTV1	HYPOTHETICAL 35.1 KD PROTEIN	THEILOPROTEUS TENAX VIRUS 1 (STRAIN KAA1)	16-39								
PYQAP_TTV1	HYPOTHETICAL 35.1 KD PROTEIN	THEILOPROTEUS TENAX VIRUS 1 (STRAIN KAA1)	82-108	233-256							
PYP24_RTBV	HYPOTHETICAL P24 PROTEIN	THEILOPROTEUS TENAX VIRUS 1 (STRAIN KAA1)	91-115								
PYP24_RTBVP	HYPOTHETICAL P24 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS	2-25	104-128							
PYP47_NPVAC	HYPOTHETICAL 47.1 KD PROTEIN	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES)	2-25	104-126							
PYP42_NPVOP	HYPOTHETICAL 42.3 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	211-234								
PYP40_NPVOP	HYPOTHETICAL 40.0 KD PROTEIN	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS (OP	82-108								
PYP78_TNVD	HYPOTHETICAL P78 PROTEIN	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS (OP	227-54	215-230							
PYP08_NPVLD	HYPOTHETICAL 8.5 KD PROTEIN	TOBACCO NECROSIS VIRUS (STRAIN D) (TNV)	13-31								
PYP11_HSV6G	HYPOTHETICAL PROTEIN U11	LYMANTRIA DISPAR MULTICAPSID NUCLEAR POLYHEDROSIS VIRUS	16-33								
PYU11_HSV6G	HYPOTHETICAL PROTEIN U11	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	43-66								
PYU13_HSV6G	HYPOTHETICAL PROTEIN U13	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	53-74								
PYU13_HSV6G	HYPOTHETICAL PROTEIN U13	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	33-54								
PYU1_BVB	REPETITIVE PROTEIN ORF1	CHILO IRIDESCENT VIRUS (CIV) (INSECT IRIDESCENT VIRUS TYPE 6)	20-43								
PYU4_BVB	REPETITIVE PROTEIN ORF4	CHILO IRIDESCENT VIRUS (CIV) (INSECT IRIDESCENT VIRUS TYPE 6)	44-69								
PYU5_BVB	REPETITIVE PROTEIN ORF5	CHILO IRIDESCENT VIRUS (CIV) (INSECT IRIDESCENT VIRUS TYPE 6)	98-123	178-204	260-285						

PCGENE	P12CTLZIP	All Viruses (No Bacteriophages)									
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	AREA 8	AREA 9
PYRR1_EBV	HYPOTHETICAL BRRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	199-223								
PYRR2_EBV	HYPOTHETICAL BRRF2 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	164-182								
PYSR1_EBV	HYPOTHETICAL BSRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	92-113								
PYTR1_EBV	HYPOTHETICAL BTRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	383-401								
PYUB2_NPVOP	HYPOTHETICAL 34.8 KD PROTEIN	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS (OP	133-152								
PYVAE_VACCC	HYPOTHETICAL 18.2 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	82-99	140-156							
PYVAF_VACCC	HYPOTHETICAL 8.4 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	17-40	51-68							
PYVAL_VACCV	HYPOTHETICAL 19 KD PROTEIN	VACCINIA VIRUS (STRAIN WR), AND VACCINIA VIRUS (STRAIN COPE	21-43								
PYVAT_VACCV	HYPOTHETICAL 8.9 KD PROTEIN	VACCINIA VIRUS (STRAIN WR), AND VACCINIA VIRUS (STRAIN COPE	28-46								
PYVB8_VACCV	HYPOTHETICAL 10.5 KD PROTEIN	VACCINIA VIRUS (STRAIN WR), AND VACCINIA VIRUS (STRAIN COPE	9-28								
PYVBO_VACCC	HYPOTHETICAL 11.3 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	37-54								
PYVCA_VACCC	HYPOTHETICAL 8.0 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	18-35								
PYVD2_VACCV	HYPOTHETICAL 8.6 KD PROTEIN	VACCINIA VIRUS (STRAIN WR), AND VACCINIA VIRUS (STRAIN COPE	5-26	36-52							
PYVDA_VACCC	HYPOTHETICAL 9.2 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	22-38	44-64							
PYVDA_VACCV	HYPOTHETICAL 9.2 KD PROTEIN	VACCINIA VIRUS (STRAIN WR)	3-18	22-38	44-64						
PYVFA_VACCC	HYPOTHETICAL 7.1 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	48-67								
PYVFF_VACCC	HYPOTHETICAL 8.8 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	23-42								
PYVGA_VACCC	HYPOTHETICAL 14.3 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	105-127								
PYVKB_VACCC	HYPOTHETICAL 9.0 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	54-70								
PYZL3_EBV	HYPOTHETICAL BZLF3 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	150-166								
PY14K_CHMV	HYPOTHETICAL 14.3 KD PROTEIN	CHLORIS STRIATE MOSAIC VIRUS	54-80								
PY18K_SSV1	HYPOTHETICAL 18.6 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	100-125	141-162							
PY20G_ADE07	HYPOTHETICAL 20.6 KD EARLY PROTEIN	HUMAN ADENOVIRUS TYPE 7	56-73								
PY21K_BNYVV	RNA-3 HYPOTHETICAL 24.7 KD PROTEIN	BEET NECROTIC YELLOW VEIN MOSAIC VIRUS (ISOLATE F2)	163-188								
PY29K_NPVAC	HYPOTHETICAL 29.9 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	90-106								
PY2_SOCMV	HYPOTHETICAL PROTEIN 2	SOYBEAN CHLOROTIC MOTTLE VIRUS	65-90								
PY32K_SSV1	HYPOTHETICAL 31.7 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	122-142								
PY6K0_SSV1	HYPOTHETICAL 6.0 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	23-44								
PY7K4_VACCV	HYPOTHETICAL 7.4 KD PROTEIN	VACCINIA VIRUS (STRAIN WR)	21-36								
PY7K_MEASH	HYPOTHETICAL 7 KD PROTEIN	MEASLES VIRUS (STRAIN HALLE)	3-23								
PY7_SOCMV	HYPOTHETICAL PROTEIN 7	SOYBEAN CHLOROTIC MOTTLE VIRUS	96-120								
PY8K_SSV1	HYPOTHETICAL 8.7 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	80-105	155-175	543-565	657-675	764-784				
PY8_SOCMV	HYPOTHETICAL PROTEIN 8	SOYBEAN CHLOROTIC MOTTLE VIRUS	10-27								
PY97_ADE07	HYPOTHETICAL 9.7 KD EARLY PROTEIN	HUMAN ADENOVIRUS TYPE 7	54-77								
PYAK3_SSV1	HYPOTHETICAL 9.2 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1	16-41	62-77							
PYAL1_EBV	HYPOTHETICAL BALF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	205-220								
PYB01_FOWPM	HYPOTHETICAL BAMHI-ORF1 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	354-374								
PYB07_FOWPM	HYPOTHETICAL BAMHI-ORF7 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	104-121								
PYB09_FOWPM	HYPOTHETICAL BAMHI-ORF9 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	49-67								
PYB10_FOWPM	HYPOTHETICAL BAMHI-ORF10 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	84-100								
PYB12_FOWPM	HYPOTHETICAL BAMHI-ORF12 PROTEIN	FOWLPOX VIRUS (ISOLATE HP-438[MUNICH])	114-134	154-169							
PYBL3_SFV3L	BEL-3 PROTEIN	SIMIAN FOAMY VIRUS (TYPE 3 / STRAIN LK3)	113-128								
PYBL3_FOAMV	BEL-3 PROTEIN	HUMAN SPUMARETROVIRUS	52-78								
PYDH1_HSVSC	HYPOTHETICAL 28.7 KD PROTEIN IN DHFR 5'REGIO	HERPESVIRUS SAIMIRI (SUBGROUP C / STRAIN 488)	206-230								
PYDH5_HSVSC	HYPOTHETICAL 9.5 KD PROTEIN IN DHFR 5'REGION	HERPESVIRUS SAIMIRI (SUBGROUP C / STRAIN 488)	69-90								
PYEC4_EBV	HYPOTHETICAL EC-BLF4 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	200-222								
PYGA1_HSVMB	HYPOTHETICAL 23.6 KD PROTEIN	MAREK'S DISEASE HERPESVIRUS (STRAIN BC-1)	175-190								
PYGA1_HSVM04	HYPOTHETICAL 23.6 KD PROTEIN	MAREK'S DISEASE HERPESVIRUS (STRAIN MD5)	175-190								
PYHL4_HCMVA	HYPOTHETICAL PROTEIN HHLF4	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	101-121								
PYHR3_VACCV	HYPOTHETICAL HOST RANGE 37.4 KD PROTEIN	VACCINIA VIRUS (STRAIN WR)	86-102								
PYI01_CVMA5	HYPOTHETICAL PROTEIN IN NUCLEOCAPSID ORF	MURINE CORONAVIRUS MHV	141-156								
PYI0R_CVMI	HYPOTHETICAL PROTEIN IN NUCLEOCAPSID ORF	MURINE CORONAVIRUS MHV	141-156								
PYI0R_CVM5	HYPOTHETICAL PROTEIN IN NUCLEOCAPSID ORF	MURINE CORONAVIRUS M5V	7-33								
PYK32_EBV	HYPOTHETICAL BKRF3 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	67-90								
PYL12_ADE41	HYPOTHETICAL 8.0 KD PROTEIN	HUMAN ADENOVIRUS TYPE 41	53-73								
PYM03_EBV	BMRF3 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	76-100	128-155	215-241	330-350					
PYMSP_IRV22	HYPOTHETICAL 15.9 KD PROTEIN	SIMULIUM IRIDESCENT VIRUS (INSECT IRIDESCENT VIRUS TYPE 22)	23-46								

PCGENE	P1SCTL2IP	All Viruses (No Bacteriophage)								
FILE NAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7	AREA8
PYOA1_ADEGI	HYPOTHETICAL PROTEIN	AVIAN ADENOVIRUS GAL1 (STRAIN PHELPS) (FOWL ADENOVIRUS 1)	59-90							
PYOA1_COYMV	HYPOTHETICAL 23 KD PROTEIN	COMMELINA YELLOW MOTTLE VIRUS	56-83							
PYOA1_TEVI	HYPOTHETICAL 79 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	17-40							
PYOA2_COYMV	HYPOTHETICAL 13 KD PROTEIN	COMMELINA YELLOW MOTTLE VIRUS	23-49							
PYOA3_EAV	HYPOTHETICAL 254 KD PROTEIN	EQUINE ARTERITIS VIRUS	165-192							
PYOA3_LELV	HYPOTHETICAL 28 KD PROTEIN	LELYSTAD VIRUS	196-212							
PYOA3_LVX	HYPOTHETICAL 11 KD PROTEIN	LILY VIRUS X	71-92							
PYOA3_NAV	HYPOTHETICAL 9 KD PROTEIN	NARCISSUS MOSAIC VIRUS	7-30							
PYOA3_PVX	HYPOTHETICAL 12 KD PROTEIN	POTATO VIRUS X	11-34							
PYOA3_PVX2	HYPOTHETICAL 12 KD PROTEIN	POTATO VIRUS X (STRAIN CP)	11-34							
PYOA3_WCMVM	HYPOTHETICAL 13 KD PROTEIN	WHITE CLOVER MOSAIC VIRUS (STRAIN M)	9-28							
PYOA3_WCMVS	HYPOTHETICAL 13 KD PROTEIN	WHITE CLOVER MOSAIC VIRUS (STRAIN S)	9-31							
PYOA3_ADEGI	HYPOTHETICAL 31 KD PROTEIN	AVIAN ADENOVIRUS GAL1 (STRAIN PHELPS) (FOWL ADENOVIRUS 1)	69-86							
PYOA3_EAV	HYPOTHETICAL 28 KD PROTEIN	EQUINE ARTERITIS VIRUS	139-158							
PYOA4_NAV	HYPOTHETICAL 10 KD PROTEIN	NARCISSUS MOSAIC VIRUS	10-26							
PYOA1_TEVI	HYPOTHETICAL 160 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	13-32							
PYOA1_TEVI	HYPOTHETICAL 105 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	16-36							
PYOA2_TEVI	HYPOTHETICAL 30 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	82-102	233-256						
PYOA2_TEVI	HYPOTHETICAL 58 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1)	91-115							
PYP34_RTBV	HYPOTHETICAL P34 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS	2-25	104-126						
PYP37_RTBVA	HYPOTHETICAL P37 PROTEIN	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES)	2-25	104-126						
PYP37_NPVAC	HYPOTHETICAL 40 KD PROTEIN IN P47 5'REGION	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	211-234							
PYP39_NPVOP	HYPOTHETICAL 12 KD PROTEIN IN P6 3'REGION	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS (OP	82-108							
PYP39_NPVOP	HYPOTHETICAL 40 KD PROTEIN IN P6 5'REGION	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS (OP	137-54	213-230						
PYP78_TNVS	HYPOTHETICAL P78 PROTEIN	TOBACCO NECROSIS VIRUS (STRAIN D) (TNV)	13-31							
PYP01_NPVLD	HYPOTHETICAL 11 KD PROTEIN IN POL 3'REGION	LYMANTRIA DISPAR MULTICAPSID NUCLEAR POLYHEDROSIS VIRUS	16-35							
PYP01_HSV60	HYPOTHETICAL PROTEIN UL1	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	42-66							
PYP01_HSV60	HYPOTHETICAL PROTEIN UL1	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	55-74							
PYP01_HSV60	HYPOTHETICAL PROTEIN UL1	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	332-58							
PYP04_BVS	REPETITIVE PROTEIN 04/1	CHILO IRIDESCENT VIRUS (CIV) (INSECT IRIDESCENT VIRUS TYPE 6)	28-43							
PYP04_BVS	REPETITIVE PROTEIN 04/4	CHILO IRIDESCENT VIRUS (CIV) (INSECT IRIDESCENT VIRUS TYPE 6)	44-69							
PYP01_EBV	HYPOTHETICAL BLLF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	196-221	176-204	240-283					
PYP02_EBV	HYPOTHETICAL BLLF2 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	164-182							
PYP01_EBV	HYPOTHETICAL BFRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	92-113							
PYP01_EBV	HYPOTHETICAL BFRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	383-401							
PYP02_NPVOP	HYPOTHETICAL 24 KD PROTEIN	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS (OP	133-152							
PYP34_VACCC	HYPOTHETICAL 12 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	82-99	146-156						
PYP37_VACCC	HYPOTHETICAL 14 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	17-40	51-68						
PYP41_VACCV	HYPOTHETICAL 99 KD PROTEIN	VACCINIA VIRUS (STRAIN WR) AND VACCINIA VIRUS (STRAIN COPE	21-43							
PYP41_VACCV	HYPOTHETICAL 11 KD PROTEIN	VACCINIA VIRUS (STRAIN WR) AND VACCINIA VIRUS (STRAIN COPE	28-46							
PYP41_VACCV	HYPOTHETICAL 161 KD PROTEIN	VACCINIA VIRUS (STRAIN WR) AND VACCINIA VIRUS (STRAIN COPE	29-28							
PYP42_VACCC	HYPOTHETICAL 111 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	37-54							
PYP42_VACCC	HYPOTHETICAL 110 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	18-33							
PYP43_VACCV	HYPOTHETICAL 166 KD PROTEIN	VACCINIA VIRUS (STRAIN WR) AND VACCINIA VIRUS (STRAIN COPE	5-26	36-52						
PYP43_VACCC	HYPOTHETICAL 191 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	32-50	44-64						
PYP44_VACCV	HYPOTHETICAL 111 KD PROTEIN	VACCINIA VIRUS (STRAIN WR)	3-18	22-38	44-64					
PYP44_VACCC	HYPOTHETICAL 111 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	48-67							
PYP47_VACCC	HYPOTHETICAL 110 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	23-42							
PYP48_VACCC	HYPOTHETICAL 141 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	105-137							
PYP48_VACCC	HYPOTHETICAL 70 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	54-70							
PYP1_EBV	HYPOTHETICAL BZLF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)	150-166							

TABLE XIV

SEARCH RESULTS SUMMARY

FOR P23TLZIPC MOTIF

PEGLINE	FUNCTION	All Viruses (no bacteriophages)						
LINE NAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6
PPOL2_TBRV3	RNA1 POLYPROTEIN	TOMATO BLACK RING VIRUS (STRAIN S) (TBRV)	617-931	1041-1617				
PPOL2_TRSV	RNA1 POLYPROTEIN	TOMATO RINGSPOT VIRUS (ISOLATE RASPBERRY) (TORSV)	316-747					
PPOL_BOVEV	GENOME POLYPROTEIN	BOVINE ENTEROVIRUS (STRAIN VG-5-27) (BEV)	1617-1866	2001-2017				
PPOL_BVDVN	GENOME POLYPROTEIN	BOVINE VIRAL DIARRHEA VIRUS (ISOLATE NADL)	102-133	1630-1658	2120-2146			
PPOL_BVDV5	GENOME POLYPROTEIN	BOVINE VIRAL DIARRHEA VIRUS (STRAIN SD-1)	102-133	1560-1588	1120-1158			
PPOL_BYMV	GENOME POLYPROTEIN	BEAN YELLOW MOSAIC VIRUS	326-735					
PPOL_COXAJ	GENOME POLYPROTEIN	COXSACKIEVIRUS A21 (STRAIN COE)	1126-1557					
PPOL_COXAJ	GENOME POLYPROTEIN	COXSACKIEVIRUS A21 (ECHO 9 VIRUS) (E 9 V)	67-99					
PPOL_COXA9	GENOME POLYPROTEIN	COXSACKIEVIRUS A9 (STRAIN GREGORY)	1601-1633					
PPOL_COXB1	GENOME POLYPROTEIN	COXSACKIEVIRUS B1	1582-1614					
PPOL_COXB3	GENOME POLYPROTEIN	COXSACKIEVIRUS B3	1585-1617					
PPOL_COXB4	GENOME POLYPROTEIN	COXSACKIEVIRUS B4	1585-1617					
PPOL_COXB5	GENOME POLYPROTEIN	COXSACKIEVIRUS B5	815-868	1585-1617				
PPOL_DEN1S	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 1 (STRAIN SINGAPORE S275/90)	1111-1145	1405-1519	2401-2434			
PPOL_DEN1W	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 1 (STRAIN WESTERN PACIFIC)	1112-1146					
PPOL_DEN2S	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN 16681)	61-95	1112-1146				
PPOL_DEN2T	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN 16681-PDK11)	61-95	1112-1146				
PPOL_DEN2D	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN D2-06)	61-95					
PPOL_DEN2J	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN JAMAICA)	61-95	1112-1146				
PPOL_DEN2N	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN NEW GUINEA C)	364-398					
PPOL_DEN2P	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 2 (STRAIN PR159/S1)	61-95	1112-1146				
PPOL_DEN3T	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 3 (STRAIN TONGA 1974)	817-846					
PPOL_DEN3	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 3	61-95	2199-2412				
PPOL_DEN4	GENOME POLYPROTEIN	DENGUE VIRUS TYPE 4	60-94					
PPOL_HEPC	GENOME POLYPROTEIN	HEPATITIS C VIRUS (STRAIN HUTCHINSON)	774-806					
PPOL_ENCV	GENOME POLYPROTEIN	ENCEPHALOMYOCARDITIS VIRUS	1196-1228	1443-1501				
PPOL_ENCVB	GENOME POLYPROTEIN	ENCEPHALOMYOCARDITIS VIRUS (STRAIN EMC-B NONDIABETOGENIC)	1196-1228	1443-1501				
PPOL_ENCVD	GENOME POLYPROTEIN	ENCEPHALOMYOCARDITIS VIRUS (STRAIN EMC-D DIABETOGENIC)	1196-1228	1443-1501				
PPOL_FMDV1	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN A10-61) (APHTHOVIRUS A)	1016-1064	1098-1133	1167-1199	1465-1501		
PPOL_FMDVA	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAIN A12) (APHTHOVIRUS A)	1016-1074	1098-1133	1167-1199	1465-1501		
PPOL_FMDVO	GENOME POLYPROTEIN	FOOT-AND-MOUTH DISEASE VIRUS (STRAINS OIK AND OIR 5)	1098-1133	1167-1199	1465-1501			
PPOL_HCV1	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE 1) (HCV)	1640-1676					
PPOL_HCVA	GENOME POLYPROTEIN	HOG CHOLERA VIRUS (STRAIN ALFORT) (SWINE FEVER VIRUS)	1383-1393	1560-1588	1131-1159			
PPOL_HCVB	GENOME POLYPROTEIN	HOG CHOLERA VIRUS (STRAIN BRESCIA) (SWINE FEVER VIRUS)	102-133	1560-1588	1131-1159			
PPOL_HCVJ	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE J) (HCV)	1640-1676					
PPOL_HCVJ1	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE J1) (HCV)	1640-1676					
PPOL_HCV14	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HCV-476) (HCV)	354-391					
PPOL_HCV16	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HC-J6) (HCV)	711-743					
PPOL_HCV1B	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HC-J8) (HCV)	711-743	1893-1924				
PPOL_HCV1A	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE JAPANESE) (HCV)	1640-1676					
PPOL_HCVIT	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE HCV-J1) (HCV)	1640-1676					
PPOL_HCVTW	GENOME POLYPROTEIN	HEPATITIS C VIRUS (ISOLATE TAIWAN) (HCV)	1640-1676					
PPOL_HPAV3	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN 3A)	1514-1550	2068-2099				
PPOL_HPAV4	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN 4C)	1514-1550	2068-2099				
PPOL_HPAV1	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN 18F)	1514-1550	2068-2099				
PPOL_HPAVH	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN HM-175)	1515-1551	2069-2100				
PPOL_HPAVA	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN AJ)	1515-1551	2069-2100				
PPOL_HPAVM	GENOME POLYPROTEIN	HEPATITIS A VIRUS (STRAIN MBB)	1515-1551	2069-2100				
PPOL_HPAVS	GENOME POLYPROTEIN	SIMIAN HEPATITIS A VIRUS (STRAIN AGM-27)	811-868	1517-1551				
PPOL_HRV14	GENOME POLYPROTEIN	HUMAN RHINOVIRUS 14 (HRV-14)	1694-1732	2003-2041				
PPOL_HRV1B	GENOME POLYPROTEIN	HUMAN RHINOVIRUS 1B (HRV-1B)	1453-1485	1816-1849	1903-2019			
PPOL_HRV2	GENOME POLYPROTEIN	HUMAN RHINOVIRUS 2 (HRV-2)	1446-1435	1909-1842	1916-2012			
PPOL_HRV89	GENOME POLYPROTEIN	HUMAN RHINOVIRUS 89 (HRV-89)	1460-1492	1833-1866	1990-2016			
PPOL_HRV7	GENOME POLYPROTEIN	HUMAN ENTEROVIRUS 70 (STRAIN J670/71)	1108-1145					
PPOL_HRVO	STRUCTURAL POLYPROTEIN	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN OH)	222-260					
PPOL_JAEV1	GENOME POLYPROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN SA-14)	61-95	1233-1268	1516-1549	2279-2313	3274-3311	
PPOL_JAEV3	GENOME POLYPROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN SA(V))	61-95	1233-1269	1516-1549	2279-2313	3274-3311	

PCGENE	PJUCTI2IP	All Viruses (no bacteriophages)							
FILENAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7
PPOLG_JAEVN	GENOME POLYPROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN JAOARS982)	61-95	1233-1269	1316-1349	2779-2813	3274-3311		
PPOLG_KUNIM	GENOME POLYPROTEIN	JAPANESE ENCEPHALITIS VIRUS (STRAIN NAKAYAMA)	1160-1197						
PPOLG_LANVT	GENOME POLYPROTEIN	KUNJIN VIRUS (STRAIN KIRONIC)	61-95	341-394	1315-1313				
PPOLG_MCFA	GENOME POLYPROTEIN	LANGAT VIRUS (STRAIN TP21)	1133-1188	1316-1351	2230-2284	2366-2398	3093-3132		
PPOLG_MDAV	GENOME POLYPROTEIN	MOSQUITO CELL FUSING AGENT (CFA FLAVIVIRUS)	1174-1206	1330-1359					
PPOLG_MVEV	GENOME POLYPROTEIN	MAIZE DWARF MOSAIC VIRUS (BADAN)	322-351						
PPOLG_OMV	GENOME POLYPROTEIN	MURRAY VALLEY ENCEPHALITIS VIRUS	61-95	1305-1342					
PPOLG_PEMVC	GENOME POLYPROTEIN	ORNITHOGALUM MOSAIC VIRUS	344-376						
PPOLG_POLIM	GENOME POLYPROTEIN	PEPPER MOTTLE VIRUS (CALIFORNIA ISOLATE) (PEMV)	836-869	1086-1124					
PPOLG_POLIS	GENOME POLYPROTEIN	POLIOVIRUS TYPE 1 (STRAIN HOUHONEY)	1131-1158						
PPOLG_POLJL	GENOME POLYPROTEIN	POLIOVIRUS TYPE 1 (STRAIN SABIN)	1122-1159						
PPOLG_POLJW	GENOME POLYPROTEIN	POLIOVIRUS TYPE 2 (STRAIN LANSING)	1120-1157						
PPOLG_POLJ2	GENOME POLYPROTEIN	POLIOVIRUS TYPE 2 (STRAIN W-2)	1170-1157						
PPOLG_POLJL	GENOME POLYPROTEIN	POLIOVIRUS TYPE 3 (STRAIN 2137)	1118-1156						
PPOLG_PPVD	GENOME POLYPROTEIN	POLIOVIRUS TYPE 3 (STRAINS PJLEONJT AND PJLEON 12A1)(P)	1119-1156						
PPOLG_PPVEA	GENOME POLYPROTEIN	PLUM POX POTYVIRUS (STRAIN DI (PPV)	2900-2941	3004-3113					
PPOLG_PPVMA	GENOME POLYPROTEIN	PLUM POX POTYVIRUS (STRAIN EL AMAR)(PPV)	1331-1368	1401-1440					
PPOLG_PPVRA	GENOME POLYPROTEIN	PLUM POX POTYVIRUS (ISOLATE NAT)(PPV)	2944-2975	3004-3067					
PPOLG_PSBMV	GENOME POLYPROTEIN	PEA SEED-BORNE MOSAIC VIRUS (STRAIN PDD1)	911-966	1411-1445	3144-3178				
PPOLG_PVYN	GENOME POLYPROTEIN	POTATO VIRUS Y (STRAIN N) (PVY)	1102-1136	1004-1033					
PPOLG_PVYVI	GENOME POLYPROTEIN	PARSNIP YELLOW FLECK VIRUS (ISOLATE P-121) (PVYV)	1102-1136						
PPOLG_SMVMN	GENOME POLYPROTEIN	SOYBEAN MOSAIC VIRUS (STRAIN N)	210-262	1110-1139	1901-1931				
PPOLG_STEVM	GENOME POLYPROTEIN	ST LOUIS ENCEPHALITIS VIRUS (STRAIN MSI-7)	345-376						
PPOLG_SUMVS	GENOME POLYPROTEIN	SUGARCANE MOSAIC VIRUS (STRAIN SC)	61-95	1301-1331					
PPOLG_SVDVJ	GENOME POLYPROTEIN	SWINE VESICULAR DISEASE VIRUS (STRAIN IND 76)	307-336						
PPOLG_SVDVU	GENOME POLYPROTEIN	SWINE VESICULAR DISEASE VIRUS (STRAIN UKG/2/72)	1385-1417						
PPOLG_TBEVS	GENOME POLYPROTEIN	TICK-BORNE ENCEPHALITIS VIRUS (STRAIN SOFJIN) (TBEV)	1385-1417						
PPOLG_TBEVW	GENOME POLYPROTEIN	TICK-BORNE ENCEPHALITIS VIRUS (STRAIN NEUDORFL)	833-869	1133-1188	2166-2198	3061-3110			
PPOLG_TEV	GENOME POLYPROTEIN	TICK-BORNE ENCEPHALITIS VIRUS (WESTERN SUBTYPE) (TBEV)	1133-1188	2166-2198	3091-3132				
PPOLG_TMVOM	GENOME POLYPROTEIN	TOBACCO MOSAIC VIRUS (OM STRAIN)	837-865	2798-2827					
PPOLG_TMVTO	GENOME POLYPROTEIN	TOBACCO MOSAIC VIRUS (STRAIN L)	1034-1102	1198-1231	1436-1468	1908-1938			
PPOLG_TMVU1	GENOME POLYPROTEIN	TOBACCO MOSAIC VIRUS (STRAIN U1)	1073-1100	1191-1219	1464-1506	1906-1937			
PPOLG_TUMV	GENOME POLYPROTEIN	TURNIP MOSAIC VIRUS (STRAIN 380 IN)	1074-1102	1191-1221	1470-1502	1908-1939			
PPOLG_WMV2	GENOME POLYPROTEIN	TOBACCO VEIN MOTTLING VIRUS (TVMV)	1373-1403						
PPOLG_WNV	GENOME POLYPROTEIN	WATERMELON MOSAIC VIRUS II	2698-2731						
PPOLG_YEFVT	GENOME POLYPROTEIN	WEST NILE VIRUS	938-967						
PPOLG_YEVU1	GENOME POLYPROTEIN	YELLOW FEVER VIRUS (STRAIN 17D)	61-95	533-590	1272-1309				
PPOLG_YFV17	GENOME POLYPROTEIN	YELLOW FEVER VIRUS (STRAIN PASTEUR 17D-204)	1135-1184	1238-1266	1493-1531	2108-2140	3092-3127		
PPOLH_BMYV	GENOME POLYPROTEIN	ZUCCHINI YELLOW MOSAIC VIRUS (ZYMV)	1135-1186	1238-1266	1495-1531	2108-2140	3092-3127		
PPOLH_PRMVA	GENOME POLYPROTEIN	PEA ENATION MOSAIC VIRUS	339-368						
PPOLH_WMV1	GENOME POLYPROTEIN	WATERMELON MOSAIC VIRUS II	1122-1159						
PPOLN_EVVT	NONSTRUCTURAL POLYPROTEIN	VENEZUELAN EQUINE ENCEPHALITIS VIRUS (STRAIN TRINIDAD DONKEY)	344-377						
PPOLN_FCV6	NON-STRUCTURAL POLYPROTEIN	FELINE CALICIVIRUS (STRAIN CFI-68 (VIRULENT))	613-648	1436-1468					
PPOLN_FCV8	NON-STRUCTURAL POLYPROTEIN	FELINE CALICIVIRUS (STRAIN JAPANESE F4) (FCV)	337-365						
PPOLN_FCV9	NON-STRUCTURAL POLYPROTEIN	FELINE CALICIVIRUS (STRAIN F9) (FCV)	300-333						
PPOLN_HAVHM	NON-STRUCTURAL POLYPROTEIN	HEPATITIS A VIRUS (STRAIN HM-175)	801-841						
PPOLN_HAVHS	NON-STRUCTURAL POLYPROTEIN	HEPATITIS A VIRUS (STRAIN HERCOD) (HAV)	1616-1653						
PPOLN_HEVBA	NON-STRUCTURAL POLYPROTEIN	HEPATITIS E VIRUS (STRAIN BURMA) (HEV)	1616-1650						
PPOLN_HEVPA	NON-STRUCTURAL POLYPROTEIN	HEPATITIS E VIRUS (STRAIN PAKISTAN) (HEV)	1618-1653						
PPOLN_MIDDV	NONSTRUCTURAL POLYPROTEIN	MIDDELBURG VIRUS	1617-1651						
PPOLN_ONNVG	NONSTRUCTURAL POLYPROTEIN	ONYONG-NYONG VIRUS (STRAIN GULU) (ONN)	15-57						
PPOLN_RHDV	NONSTRUCTURAL POLYPROTEIN	RABBIT HEMORRHAGIC DISEASE VIRUS (RHDV	1144-1180	1404-1439					
PPOLN_SFV	NONSTRUCTURAL POLYPROTEIN	SEMLIKI FOREST VIRUS	399-437	1562-1594					
PPOLN_SINNR	NONSTRUCTURAL POLYPROTEIN	SINDBIS VIRUS (SUBTYPE OCKELBO / STRAIN EDSBYN 82-5)	1146-1175	1406-1441					
PPOLN_SINNY	NONSTRUCTURAL POLYPROTEIN	SINDBIS VIRUS (STRAIN HRSP)	1454-1486						
			1444-1484						

PLGENE	PIRCLZIP	All Viruses (no bacteriophage)	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1
FILENAME	PROTEIN	VIRUS							
PREP_CSV	REPEAT ELEMENT PROTEIN	CANPOLETIS SONORENSIS VIRUS (CSV)	113-149						
PREV_BIVI	REV PROTEIN	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127) (BIV)	34-109						
PREV_EIAVB	REV PROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (ISOLATE 1169) (EIAV)	44-79						
PREV_EIAVC	REV PROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (ISOLATE CL123) (EIAV)	44-79						
PREV_EIAVY	REV PROTEIN	EQUINE INFECTIOUS ANEMIA VIRUS (ISOLATE WYOMING) (EIAV)	34-109						
PREV_SIVAT	REV PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (TYO-1 ISOLATE) (SIV-AGM)	25-62						
PRIR1_ASFM2	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LARGE CH	AFRICAN SWINE FEVER VIRUS (ISOLATE MALAWI/LIL 20/1) (ASFV)	630-666						
PRIR1_HCMVA	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LARGE CH	HUMAN CYTOMEGALOVIRUS (STRAIN ADI69)	278-311	393-430	449-477				
PRIR1_HSVEB	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LARGE CH	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (EHV-1)	60-91	393-431					
PRIR1_VACCC	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LARGE CH	VACCINIA VIRUS (STRAIN COPENHAGEN)	103-135						
PRIR1_VACCV	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LARGE CH	VACCINIA VIRUS (STRAIN WR)	201-235						
PRIR1_VZVD	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LARGE CH	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS) (VZV)	201-235						
PRIR_AVEVA	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LARGE CH	AVIAN ROUS-ASSOCIATED VIRUS TYPE 1	14-72	221-254	408-516				
PRIR_AVII1	RIBONUCLEOSIDE-DIPHOSPHATE REDUCTASE LARGE CH	AVIAN RETROVIRUS IC10	140-177						
PRPH4_VACCC	RNA POLYMERASE-ASSOCIATED TRANSCRIPTION SPECIF	VACCINIA VIRUS (STRAIN WR), AND VACCINIA VIRUS (STRAIN COPENHAGEN	133-161						
PRPH4_VARV	RNA POLYMERASE-ASSOCIATED TRANSCRIPTION SPECIF	VARIOLA VIRUS	399-437						
PRPO1_VACCV	DNA-DIRECTED RNA POLYMERASE 147 KD POLYPEPTIDE	VACCINIA VIRUS (STRAIN WR)	399-437						
PRPO1_CAPVK	DNA-DIRECTED RNA POLYMERASE 132 KD POLYPEPTIDE	CAPRIPOXVIRUS (STRAIN KS-1)	1003-1033						
PRPO1_COWPX	DNA-DIRECTED RNA POLYMERASE 133 KD POLYPEPTIDE	COWPOX VIRUS (CPV)	297-333	647-696					
PRPO1_VACCV	DNA-DIRECTED RNA POLYMERASE 133 KD POLYPEPTIDE	VACCINIA VIRUS (STRAIN WR), AND VACCINIA VIRUS (STRAIN COPENHAGE	202-236	542-578					
PRPO1_VARV	DNA-DIRECTED RNA POLYMERASE 133 KD POLYPEPTIDE	VARIOLA VIRUS	202-236	542-578					
PRPO1_VACCV	DNA-DIRECTED RNA POLYMERASE 19 KD POLYPEPTIDE	VACCINIA VIRUS (STRAIN WR), AND VACCINIA VIRUS (STRAIN COPENHAGE	202-236	542-578					
PRPO1_VARV	DNA-DIRECTED RNA POLYMERASE 19 KD POLYPEPTIDE	VARIOLA VIRUS	35-66						
PRPO1_FOWPI	DNA-DIRECTED RNA POLYMERASE 18 KD POLYPEPTIDE	FOWLPOX VIRUS (STRAIN FP-1)	35-66						
PRPOA_LELV	RNA-DIRECTED RNA POLYMERASE	LELYSTAD VIRUS (LV)	37-88						
PRPOL_EAV	RNA-DIRECTED RNA POLYMERASE	EQUINE ARTERITIS VIRUS (EAV)	1233-1268	3133-3163	3426-3457				
PRPP1_DHVI	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	DHORI VIRUS (STRAIN INDIAN/1313441) (DHO)	171-207	3041-3073					
PRPP1_IAVI1	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA A VIRUS (STRAIN A/VICTORIA/3/75)	96-135	199-234					
PRPP1_INCJ	RNA-DIRECTED RNA POLYMERASE SUBUNIT P1	INFLUENZA C VIRUS (STRAIN C/JJ/50)	138-176						
PRPP2_IAANN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	564-598						
PRPP2_IADBE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERTA/60/76)	708-733	486-518					
PRPP2_IAFPA	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK/34)	486-518						
PRPP2_IAGUS	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/GUILLAIARY LAND/704/77)	486-518						
PRPP2_IAHTC	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/EQUINE2/OHIO/1/79)	486-518						
PRPP2_IAHTE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/EQUINE2/OHIO/1/79)	486-518						
PRPP2_IAKOR	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/EQUINE/TENNESSEE/5/86)	486-518						
PRPP2_IALEI	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/KOREA/426/68)	486-518						
PRPP2_IALEJ	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/57)	486-518						
PRPP2_IANAN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/57)	486-518						
PRPP2_IANT6	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	486-518						
PRPP2_IAPR8	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PR/8/34)	486-518						
PRPP2_IAPUE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/119/79)	486-518						
PRPP2_IARUD	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34	486-518						
PRPP2_IASIN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/RUDDY TURNSTONE/NEW JERSEY/47/85)	486-518						
PRPP2_IATKM	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/SINGAPORE/1/57)	486-518						
PRPP2_IAVPI	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/TURKEY/MINNESOTA/833/80)	486-518						
PRPP2_IAWIL	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/VICTORIA/3/75)	486-518						
PRPP2_IAZ41	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/WILSON-SMITH/33)	486-518						
PRPP2_IAZE1	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/15/30)	486-518						
PRPP2_IAZII	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/15/30)	486-518						
PRPP2_IAZJF	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/SWINE/TENNESSEE/6/71)	486-518						
PRPP2_IAZUD	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/UDORN/307/72)	486-518						
PRPP2_IATPR	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/TURKEY/OREGON/71)	515-553	585-613					
PRPP2_IATPW	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK/34)	585-613						
PRPP2_IAUGU	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/WEYBRIDGE)	579-613						
PRPP2_IAUSA	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/GUILLAIARY LAND/704/77)	585-613						
PRPP2_IAUSA	RNA-DIRECTED RNA POLYMERASE SUBUNIT P2	INFLUENZA A VIRUS (STRAIN A/GUILLAIARY LAND/704/77)	585-613						

PCGENE	PIRCTLZIP	All Viruses (no bacteriophages)						
ELEMENT	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6
PRRP1_IAPR	RNA-DIRECTED RNA POLYMERASE SUBUNIT P)	INFLUENZA A VIRUS (STRAIN A/EQUINE/PRAGUE/1/56)	585-613					
PRRP1_IAMAN	RNA-DIRECTED RNA POLYMERASE SUBUNIT P)	INFLUENZA A VIRUS (STRAIN A/MALLARD/NEW YORK/6750/78)	585-613					
PRRP1_IARUD	RNA-DIRECTED RNA POLYMERASE SUBUNIT P)	INFLUENZA A VIRUS (STRAIN A/RUDDY TURNSTONE/NEW JERSEY/47/85)	585-613					
PRRP1_IASE1	RNA-DIRECTED RNA POLYMERASE SUBUNIT P)	INFLUENZA A VIRUS (STRAIN A/SEALION/MASSACHUSETTS/1/80)	585-613					
PRRP1_IATKM	RNA-DIRECTED RNA POLYMERASE SUBUNIT P)	INFLUENZA A VIRUS (STRAIN A/TURKEY/MINNESOTA/833/80)	585-613					
PRRP1_IAZ11	RNA-DIRECTED RNA POLYMERASE SUBUNIT P)	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/15/30)	585-613					
PRRP1_IAZ1E	RNA-DIRECTED RNA POLYMERASE SUBUNIT P)	INFLUENZA A VIRUS (STRAIN A/SWINE/TENNESSEE/2/47)	585-613					
PRRP1_INBAC	RNA-DIRECTED RNA POLYMERASE SUBUNIT P)	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (COLD-ADAPTED))	735-769					
PRRP1_INCBE	RNA-DIRECTED RNA POLYMERASE SUBUNIT P)	INFLUENZA B VIRUS (STRAIN B/ANN ARBOR/1/66 (WILD-TYPE))	735-769					
PRRP1_INCJI	RNA-DIRECTED RNA POLYMERASE SUBUNIT P)	INFLUENZA C VIRUS (STRAIN C/BERLIN/1/85)	609-641					
PRRP1_INDOV	RNA-DIRECTED RNA POLYMERASE SUBUNIT P)	INFLUENZA C VIRUS (STRAIN C/JJ/50)	609-641					
PRRPA_CVH22	RNA-DIRECTED RNA POLYMERASE	THOGOTO VIRUS (THO)	109-145	324-356				
PRRPA_CVMJH	RNA-DIRECTED RNA POLYMERASE	HUMAN CORONAVIRUS (STRAIN 229E)	418-443	1312-1345	1363-1395	1965-1999	2678-2712	2674-2708 3135-3191
PRRPB_BEV	RNA-DIRECTED RNA POLYMERASE	MURINE CORONAVIRUS MHV (STRAIN JHM)	768-740	1344-1377	1737-1783	1933-1967		
PRRPB_CVMAJ	RNA-DIRECTED RNA POLYMERASE	BOVINE VIRUS (BEV)	911-949	2137-2169	2178-2206			
PRRPB_CVMJ3	RNA-DIRECTED RNA POLYMERASE	MURINE CORONAVIRUS MHV (STRAIN A59)	146-180	646-714	1689-1722	2690-2730		
PRRPB_CVMJH	RNA-DIRECTED RNA POLYMERASE	MURINE CORONAVIRUS MHV (STRAIN JHM)	146-180	684-714	1647-1720	2356-2391	2696-2728	
PRRPB_CVPR1	RNA-DIRECTED RNA POLYMERASE	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS	131-207	1321-350	481-515			
PRRPB_IBVB	RNA-DIRECTED RNA POLYMERASE	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE) (IBV)	80-113					
PRRPL_BUNYW	RNA POLYMERASE	BUNYAMWERA VIRUS	430-470					
PRRPL_HANTV	RNA POLYMERASE	HANTAAN VIRUS (STRAIN 76-118) (KOREAN HEMORRHAGIC FEVER VIRUS)	303-331	1046-1128				
PRRPL_IBVSA	RNA POLYMERASE BETA SUBUNIT	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	1938-1977					
PRRPL_MABVM	RNA-DIRECTED RNA POLYMERASE	MARBURG VIRUS (STRAIN MUSOKE)	892-923	1181-1213				
PRRPL_MABVP	RNA-DIRECTED RNA POLYMERASE	MARBURG VIRUS (STRAIN POPP)	144-176	698-736	1042-1074	1597-1633		
PRRPL_MEASE	RNA POLYMERASE BETA SUBUNIT	MEASLES VIRUS (STRAIN EDMONSTON)	144-176	698-736	1043-1074	2223-2253		
PRRPL_MUMPM	RNA POLYMERASE BETA SUBUNIT	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	191-227	647-683	788-825	1160-1193	1886-1914	
PRRPL_NDVB	RNA POLYMERASE BETA SUBUNIT	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C/48) (NDV)	1882-1913					
PRRPL_PIVH1	RNA POLYMERASE BETA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN TOSHIBA) (PIV-1)	626-661	1571-1603				
PRRPL_PIVH4	RNA POLYMERASE BETA SUBUNIT	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885)	368-305	558-591	654-688	1363-1399	1881-1917	2033-2053
PRRPL_RABVP	RNA POLYMERASE BETA SUBUNIT	RABIES VIRUS (STRAIN PV)	41-76	735-764	784-814	2111-2139		
PRRPL_RABV3	RNA POLYMERASE BETA SUBUNIT	RABIES VIRUS (STRAIN SAD B19)	60-90	804-837	1365-1394	1930-1963		
PRRPL_RDV	RNA-DIRECTED RNA POLYMERASE	RICE DWARF VIRUS (RDV)	60-90	804-837	1365-1394	1930-1963		
PRRPL_RVFVZ	RNA-DIRECTED RNA POLYMERASE	RIFT VALLEY FEVER VIRUS (STRAIN ZH-548 M12) (RVFV)	1309-1333					
PRRPL_SFNV5	RNA POLYMERASE BETA SUBUNIT	SINDBIS VIRUS (STRAIN 27 HOST MUTANT(S))	1018-1035	2099-2044				
PRRPL_SINWZ	RNA POLYMERASE BETA SUBUNIT	SINDBIS VIRUS (STRAIN HRSP)	194-231	737-769	735-764	784-814	2140-2177	
PRRPL_SINWZ	RNA POLYMERASE BETA SUBUNIT	SINDBIS VIRUS (STRAIN NIVA)	194-231	51-89	535-564	784-814	2140-2177	
PRRPL_SEOUB	RNA-DIRECTED RNA POLYMERASE	SEOUL VIRUS (STRAIN 80-39)	194-231	737-769	735-764	784-814	2140-2177	
PRRPL_SV5WR	RNA POLYMERASE BETA SUBUNIT	SIMIAN VIRUS 5 (STRAIN 21004-WR) (SV5)	394-431	1918-1971	2011-2119			
PRRPL_SYNV	RNA POLYMERASE BETA SUBUNIT	SONCHUS YELLOW NET VIRUS (SYNV)	1337-394	1094-1132	2030-2051			
PRRPL_TSWVD	RNA-DIRECTED RNA POLYMERASE	TOMATO SPOTTED WILT VIRUS (BRAZILIAN ISOLATE CENHIMER 81) (TSWV)	126-164	601-634	870-856	918-951	1484-1517	
PRRPU_TIVNC	RNA POLYMERASE	TURNIP MOSAIC VIRUS (UUK)	43-79	841-880	2266-2298	2369-2403	2481-2511	2801-2840
PRRPL_VSVJ1	RNA POLYMERASE BETA SUBUNIT	VESICULAR STOMATITIS VIRUS	1011-1051	1147-1177	1393-1321	2060-2095		
PRRPL_VSVJO	RNA POLYMERASE BETA SUBUNIT	VESICULAR STOMATITIS VIRUS	269-294	713-749	1011-1039	1442-1497	1936-1969	
PRRPL_VSVSI	PUTATIVE RNA-DIRECTED RNA POLYMERASE	VESICULAR STOMATITIS VIRUS (STRAIN SAN JUAN)	1011-1039	1936-1969				
PRRPO_BWYVF	PUTATIVE RNA-DIRECTED RNA POLYMERASE	BEET WESTERN YELLOWS VIRUS (ISOLATE FL-1) (BWYV)	1311-111	209-246	712-749	961-999	1011-1039	1739-1772 2031-2067
PRRPO_BYDV1	PUTATIVE RNA-DIRECTED RNA POLYMERASE	BARLEY YELLOW DWARF VIRUS (ISOLATE MAV-PS1) (BYDV)	340-374					
PRRPO_BYDVP	PUTATIVE RNA-DIRECTED RNA POLYMERASE	BARLEY YELLOW DWARF VIRUS (ISOLATE PAV) (BYDV)	723-755					
PRRPO_BYDVR	PROBABLE RNA-DIRECTED RNA POLYMERASE	BARLEY YELLOW DWARF VIRUS (ISOLATE PAV) (BYDV)	723-755					
PRRPO_CARNV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	CARNATION MOTTLE VIRUS (CARMV)	1011-1039	1936-1969				
PRRPO_CGMV3	PUTATIVE RNA-DIRECTED RNA POLYMERASE	CUCUMBER GREEN MOTTLE MOSAIC VIRUS (WATERMELON STRAIN SH)	4-37					
PRRPO_CHV	PROBABLE RNA-DIRECTED RNA POLYMERASE	CUCUMBER NECROSIS VIRUS (CNV)	443-481	725-755	1093-1132	1565-1597		
PRRPO_CRLI	PROBABLE RNA-DIRECTED RNA POLYMERASE	CYMBIDIUM RINGSPOT VIRUS	470-501					
PRRPO_IBDV1	PUTATIVE RNA-DIRECTED RNA POLYMERASE	AVIAN INFECTIOUS BURSAL DISEASE VIRUS (STRAIN 52/70) (IBDV)	18-62	287-300	470-501			
PRRPO_IBDVA	PUTATIVE RNA-DIRECTED RNA POLYMERASE	AVIAN INFECTIOUS BURSAL DISEASE VIRUS	186-218	374-303				
PRRPO_IPNV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	INFECTIOUS PANCREATIC NECROSIS VIRUS (SEROTYPE JASPER)	268-288	511-543	599-631			
PRRPO_IPNV3	PUTATIVE RNA-DIRECTED RNA POLYMERASE	INFECTIOUS PANCREATIC NECROSIS VIRUS (SEROTYPE SP) (IPNV)	340-390	706-738				
			344-390	749-778				

PCGENE	PLUTIZIP	All Viruses (no bacteriophages)							
FILENAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7
PRRPO_LYCVA	RNA POLYMERASE	LYMPHOCYTIC CHORIOMENINGITIS VIRUS (STRAIN ARMSTRONG)	109-139	261-291	2077-2106				
PRRPO_LYCVW	RNA POLYMERASE	LYMPHOCYTIC CHORIOMENINGITIS VIRUS (STRAIN WE)	109-139						
PRRPO_MDMV	PROBABLE RNA-DIRECTED RNA POLYMERASE	MAIZE CHLOROTIC MOTTLE VIRUS (MCMV)	16-46	53-81					
PRRPO_PLRV1	PUTATIVE RNA-DIRECTED RNA POLYMERASE	POTATO LEAFROLL VIRUS (STRAIN T1) (PLRV	376-403						
PRRPO_PLRVW	PUTATIVE RNA-DIRECTED RNA POLYMERASE	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN) (PLRV)	376-403						
PRRPO_PPMVS	PUTATIVE RNA-DIRECTED RNA POLYMERASE	PEPPER MILD MOTTLE VIRUS (STRAIN SPAIN) (PPMV)	375-407	782-810	859-891	1069-1106	1333-1365		
PRRPO_RCMVV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	RED CLOVER NECROTIC MOSAIC VIRUS (RCMV)	278-310	320-353					
PRRPO_REOVI	RNA-DIRECTED RNA POLYMERASE	REOVIRUS (TYPE 2 / STRAIN FIJI/HOMES)	204-235						
PRRPO_ROTBR	RNA-DIRECTED RNA POLYMERASE SUBUNIT VP1	BOVINE ROTAVIRUS (STRAIN RF)	25-60	200-231	247-276				
PRRPO_ROTBU	RNA-DIRECTED RNA POLYMERASE SUBUNIT VP1	BOVINE ROTAVIRUS (STRAIN UK)	200-231	247-276					
PRRPO_ROTPO	RNA-DIRECTED RNA POLYMERASE SUBUNIT VP1	PORCINE ROTAVIRUS (STRAIN GOTTFRIED)	200-231	247-276					
PRRPO_ROTSI	RNA-DIRECTED RNA POLYMERASE SUBUNIT VP1	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	15-60	200-231	247-276				
PRRPO_TACV	RNA POLYMERASE	TACAIUBE VIRUS	13-53	109-138	2078-2112				
PRRPO_TBSVC	PROBABLE RNA-DIRECTED RNA POLYMERASE	TOMATO BUSHY STUNT VIRUS (STRAIN CHERRY) (TBSV)	476-501						
PRRPO_TCV	PROBABLE RNA-DIRECTED RNA POLYMERASE	TURNIP CRINKLE VIRUS (TCV)	280-310						
PRRPO_TMGMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	TOBACCO MILD GREEN MOSAIC VIRUS (TMV STRAIN U1)	67-97	128-159	269-304	376-406	450-481	855-887	1327-1359
PRRPO_TMV	PUTATIVE RNA-DIRECTED RNA POLYMERASE	TOBACCO MOSAIC VIRUS (VULGARE) (TMV)	128-159	376-406	700-728	1333-1365			
PRRPO_TMVKR	PUTATIVE RNA-DIRECTED RNA POLYMERASE	TOBACCO MOSAIC VIRUS (STRAIN KOREAN) (TMV)	128-159	376-406	700-728	1333-1365			
PRRPO_TMVTO	PUTATIVE RNA-DIRECTED RNA POLYMERASE	TOBACCO MOSAIC VIRUS (STRAIN TOMATO) (TMV)	128-159	376-406	700-728	857-889	1333-1365		
PRRPO_TNVA	RNA-DIRECTED RNA POLYMERASE	TOBACCO NECROSIS VIRUS (STRAIN A) (TNV)	231-263						
PRRPO_TNVD	RNA-DIRECTED RNA POLYMERASE	TOBACCO NECROSIS VIRUS (STRAIN D) (TNV)	5-40	224-256					
PRRP_CDVO	RNA POLYMERASE ALPHA SUBUNIT	CANINE DISTEMPER VIRUS (STRAIN ONDERSTEPOORT) (CDV)	295-332						
PRRP_MEASE	RNA POLYMERASE ALPHA SUBUNIT	MEASLES VIRUS (STRAIN EDMONSTON)	295-332						
PRRP_MEASI	RNA POLYMERASE ALPHA SUBUNIT	MEASLES VIRUS (STRAIN IP-3-CA)	295-332						
PRRP_MEASY	RNA POLYMERASE ALPHA SUBUNIT	MEASLES VIRUS (STRAIN YAMAGATA-1)	295-332						
PRRP_MUMPI	RNA POLYMERASE ALPHA SUBUNIT	MUMPS VIRUS (STRAIN SBL-1)	211-248						
PRRP_MUMPE	RNA POLYMERASE ALPHA SUBUNIT	MUMPS VIRUS (STRAIN ENDERS)	212-249						
PRRP_MUMPU	RNA POLYMERASE ALPHA SUBUNIT	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	212-249						
PRRP_NDVA	RNA POLYMERASE ALPHA SUBUNIT	NEWCASTLE DISEASE VIRUS (STRAIN AUSTRALIA-VICTORIA) (1) (NDV)	220-255						
PRRP_NDVB	RNA POLYMERASE ALPHA SUBUNIT	NEWCASTLE DISEASE VIRUS (STRAIN BEAUDETTE C48) (NDV)	220-255						
PRRP_PIH1	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (PIV-1)	216-251						
PRRP_PIH2	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN TOSHIBA) (PIV-2)	216-251						
PRRP_PIH2A	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 2A VIRUS (STRAIN TOSHIBA) (PIV-2A)	220-257	333-364					
PRRP_PIH3B	RNA POLYMERASE ALPHA SUBUNIT	HUMAN PARAINFLUENZA 3B VIRUS (STRAIN 60-111) (PIV-3B)	220-257	333-364					
PRRP_PIHVV	RNA POLYMERASE ALPHA SUBUNIT	PIRY VIRUS	114-148						
PRRP_RABVA	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN AVO1)	216-244						
PRRP_RABVC	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN CVS-11)	216-244						
PRRP_RABVE	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN ERA), AND RABIES VIRUS (STRAIN PM)	216-244						
PRRP_RABVP	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN PV)	89-121	216-244					
PRRP_RABVS	RNA POLYMERASE ALPHA SUBUNIT	RABIES VIRUS (STRAIN SAD B19)	216-244						
PRRP_SEND3	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN Z/HOST MUTANTS)	310-346						
PRRP_SENDA	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN 52A)	310-346						
PRRP_SENDH	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN HARRIS)	310-346						
PRRP_SENDM	RNA POLYMERASE ALPHA SUBUNIT	SENDAI VIRUS (STRAIN Z)	310-346						
PRRP_SV5	RNA POLYMERASE ALPHA SUBUNIT	SIMIAN VIRUS 5 (STRAIN W3) (SV5)	198-236						
PRRP_VSVNJ	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN MISSOURI)	198-230						
PRRP_VSVO	RNA POLYMERASE ALPHA SUBUNIT	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN ORSAY)	197-230						
PSHC_VACCC	SUPEROXIDE DISMUTASE LIKE PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	19-53						
PSHC_VACCW	SUPEROXIDE DISMUTASE LIKE PROTEIN	VACCINIA VIRUS (STRAIN WR)	19-53						
PSOC_VARV	SUPEROXIDE DISMUTASE LIKE PROTEIN	VARIOLA VIRUS	19-53						
PSPTR_AMEPV	SPHEROIDIN	AMSACTA MOOREI ENTOMOPOXVIRUS (AMEPV)	58-86	138-172	627-659	671-701			
PSPTI_MYXLC	SERPIN 1	MYXOMA VIRUS (STRAIN LAUSANNE)	107-200						
PSPTI_VACCC	SERINE PROTEINASE INHIBITOR 1	VACCINIA VIRUS (STRAIN COPENHAGEN)	113-160						
PSPTI_VACCV	SERINE PROTEINASE INHIBITOR 1	VACCINIA VIRUS (STRAIN WR)	117-160						
PSPTI_VARV	SERINE PROTEINASE INHIBITOR 1	VARIOLA VIRUS	116-164						
PTALB_EIAVPV	TRANS-ACTIVATION PROTEIN P26	EQUINE INFECTIOUS ANEMIA VIRUS	199-230						

PCGENE	PIXTLEIP	All Viruses (no bacteriophage)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6	AREA7
[illegible]	PROTEIN	VIRUS	99..139	172..210	461..491				
PTALA_BFDV	LARGE T ANTIGEN	[illegible]	106..118						
PTAMI_POVSV	MINOR T ANTIGEN	[illegible]	83..90						
PTAMI_POVMA	MIDDLE T ANTIGEN	MOUSE POLYOMAVIRUS (STRAIN 3)	83..90						
PTAMI_POVMA	MIDDLE T ANTIGEN	MOUSE POLYOMAVIRUS (STRAIN A2)	83..90						
PTAMI_POVMA	MIDDLE T ANTIGEN	MOUSE POLYOMAVIRUS (STRAIN CRAWFORD SMALL PLAQUE)	83..90						
PTAMI_POVBK	SMALL T ANTIGEN	POLYOMAVIRUS BK (STRAIN AS)	106..163						
PTASM_POVBK	SMALL T ANTIGEN	POLYOMAVIRUS BK	106..162						
PTASM_POVHA	SMALL T ANTIGEN	HAMSTER POLYOMAVIRUS	106..118						
PTASM_POVMA	SMALL T ANTIGEN	MOUSE POLYOMAVIRUS (STRAIN A2)	83..90						
PTASM_SV40	SMALL T ANTIGEN	SIMIAN VIRUS 40 (SV40)	133..164						
PTEGU_EBV	LARGE TEGUMENT PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8)(HUMAN HERPESVIRUS 4)	103..131	1466..1503	1791..1819	3102..3137			
PTEGU_HCMVA	PROBABLE LARGE TEGUMENT PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	161..193	699..736	813..840	2196..2228			
PTEGU_HSV2G	LARGE TEGUMENT PROTEIN	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN G5)	222..259	506..601	615..643	1436..1469	2037..2072		
PTEGU_HSVEB	LARGE TEGUMENT PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)(EHV-1)	265..297	559..589	1035..1106	3363..3393			
PTEGU_HSVSA	PROBABLE LARGE TEGUMENT PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	467..503	714..751	825..864	928..960	1503..1536	2421..2457	
PTERM_ADE07	DNA TERMINAL PROTEIN	HUMAN ADENOVIRUS TYPE 7	368..406						
PTRAF_AVIS4	TRANSFORMING PROTEIN MAF	AVIAN MUSCULOAPONEUROTIC FIBROSARCOMA VIRUS AS42	330..367						
PTOP2_ASFB7	DNA TOPOISOMERASE II	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V) (ASFV)	1118..1153	1165..1182					
PTOP2_ASFK1	DNA TOPOISOMERASE II	AFRICAN SWINE FEVER VIRUS (ISOLATE SPAIN/AV1/1985) (ASFV)	1118..1153	1164..1181					
PTREL_AVIRE	REL TRANSFORMING PROTEIN	AVIAN RETICULOENDOTHELIOSIS VIRUS	1109..1136						
PTYSY_VZVD	THYMIDYLATE SYNTHASE	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS) (VZV)	131..156						
PUIL_HSVGU	PROTEIN IL	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN UGANDA-1102)	171..203						
PUNP_XPVAC	ECDYSTEROID UDP-GLUCOSYLTRANSFERASE PRECURSOR	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACNPV)	115..219	187..425	452..484				
PUR01_HCMVA	HYPOTHETICAL PROTEIN UL2	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	23..59						
PUR02_HCMVA	VIRION PROTEIN UL3	EPSTEIN-BARR VIRUS (STRAIN B95-8)(HUMAN HERPESVIRUS 4)	335..386						
PUR03_EBV	VIRION PROTEIN UL4	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	404..436						
PUR04_HSV11	VIRION GENE 54 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)(EHV-1)	222..251	437..475					
PUR04_HSVEB	VIRION GENE 54 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	299..330						
PUR04_VZVD	VIRION GENE 54 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS) (VZV)	223..252	503..536					
PUR07_HCMVA	HYPOTHETICAL PROTEIN UL7	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	186..216						
PUR07_HSV2G	HYPOTHETICAL PROTEIN UL7	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (EHV-1)	Nos. 39						
PUR08_HCMVA	GENE 55 PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	65..96						
PUR08_HSV11	HYPOTHETICAL PROTEIN UL8	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	614..648						
PUR08_HSV11	PROTEIN UL8	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS) (VZV)	227..255						
PUR08_HSV11	GENE 51 PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	618..655						
PUR08_HSV11	ORIGIN OF REPLICATION BINDING PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS) (VZV)	168..204						
PUR09_VZVD	ORIGIN OF REPLICATION BINDING PROTEIN	PSEUDORABIES VIRUS (STRAIN NIA-3) (PRV)	40..76						
PUR10_BPVN1	DNA POLYMERASE	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	23..52						
PUR10_HSV11	PROTEIN UL10	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	302..339						
PUR10_HSV2U	PROTEIN 108	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN UGANDA-1102)	294..328						
PUR10_HSVEB	GENE 49 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (EHV-1)	241..271						
PUR10_HSVSA	PROTEIN UL10 HOMOLOG	PSEUDORABIES VIRUS (STRAIN NIA-3) (PRV)	16..42	135..412					
PUR10_PRVNI	PROTEIN UL10 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS) (VZV)	41..87						
PUR10_VZVD	GENE 38 PROTEIN	HUMAN HERPESVIRUS 6 (STRAIN GS)	158..196						
PUR11_HCMVA	HYPOTHETICAL PROTEIN UL11	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN TIORNE V182)	143..179						
PUR11_HSVEB	PROTEIN UL11 HOMOLOG	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (EHV-1)	190..223						
PUR11_HSVSA	VIRION GENE 19 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	140..171						
PUR11_VZVD	VIRION GENE 19 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS) (VZV)	207..236						
PUR12_HCMVA	HYPOTHETICAL PROTEIN UL12	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	464..503						
PUR12_HSV11	HYPOTHETICAL PROTEIN UL12	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	161..193						
PUR12_HSVSA	GENE 20 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	167..205						
PUR13_EBV	PROBABLE MAJOR ENVELOPE GLYCOPROTEIN BFLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)(HUMAN HERPESVIRUS 4)	104..131	364..393					
PUR13_HSV11	PROBABLE MAJOR ENVELOPE GLYCOPROTEIN UL13	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	104..131						
PUR13_HSVEB	MAJOR ENVELOPE GLYCOPROTEIN 100	EQUINE HERPESVIRUS TYPE 1	111..115						
PUR13_HSVSA	PROBABLE MAJOR ENVELOPE GLYCOPROTEIN 68	HERPESVIRUS SAIMIRI (STRAIN 11)	216..307						
PUR13_VZVD	PROBABLE MAJOR ENVELOPE GLYCOPROTEIN 26	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS) (VZV)	353..381						
PUR14_HSVSA	GENE 67 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	96..130						
PUR15_HCMVA	HYPOTHETICAL PROTEIN UL15	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	138..169						

FIGURE	FUNCTION	All Viruses (no bacteriophage)	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6
FIG.16 HCMVA	HYPOTHETICAL PROTEIN UL36	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	186-335					
FIG.17 EBV	PROTEIN BOLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)(HUMAN HERPESVIRUS 4)	85-133					
FIG.17 HSVEB	GENE 23 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)(EHV-1)	702-753	778-812				
FIG.17 HSVSA	GENE 63 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	560-602					
FIG.17 VZVD	GENE 21 PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)(VZV)	598-639	706-716	796-806			
FIG.18 HCMVA	HYPOTHETICAL PROTEIN UL18	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	157-188					
FIG.41 VZVD	HOST SHUTOFF VIRION PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)(VZV)	274-307					
FIG.43 HSV1	MEMBRANE PROTEIN UL43	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	41-76					
FIG.47 HSV1	GENE 13 MEMBRANE PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)(VZV)	34-64	177-308				
FIG.47 HCMVA	PROTEIN UL47	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	418-411	761-777				
FIG.47 HSVEQ	91 KD ALPHA TRANS-INDUCING PROTEIN	EQUINE HERPESVIRUS TYPE 4	418-411					
FIG.47 HSVEB	91 KD ALPHA TRANS-INDUCING PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)(EHV-1)	586-615					
FIG.49 HSV1	TEGUMENT PROTEIN UL49	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	587-633					
FIG.49 HSVHP	TEGUMENT PROTEIN UL49 HOMOLOG	BOVINE HERPESVIRUS TYPE 1 (STRAIN PH-2)	228-259					
FIG.52 EBV	PROBABLE DNA REPLICATION PROTEIN BSLF1	EPSTEIN-BARR VIRUS (STRAIN B95-8)(HUMAN HERPESVIRUS 4)	187-617					
FIG.53 HSV1	DNA REPLICATION PROTEIN UL52	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	569-629	771-805				
FIG.52 HSVER	DNA REPLICATION PROTEIN UL52	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)(EHV-1)	516-544	580-618	912-947			
FIG.53 HSVSA	PROBABLE DNA REPLICATION GENE 58 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	220-267	324-411				
FIG.55 HCMVA	PROTEIN UL55	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	211-248					
FIG.55 HSV1	UL55 PROTEIN HOMOLOG	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN UGANDA-1102)	101-139					
FIG.60 HCMVA	HYPOTHETICAL PROTEIN UL60	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	120-148					
FIG.57 HCMVA	PROBABLE DNA REPLICATION PROTEIN UL76	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	36-83	614-644				
FIG.58 HCMVA	VIRION PROTEIN UL77	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	281-413	545-598				
FIG.58 HCMVA	HYPOTHETICAL PROTEIN UL78	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	268-290	703-741				
FIG.59 HSVSA	HYPOTHETICAL GENE 58 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	158-193					
FIG.60 HSV1	HYPOTHETICAL PROTEIN 5R	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN UGANDA-1102)	138-159					
FIG.61 HSVSA	HYPOTHETICAL GENE 24 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	322-355					
FIG.63 HCMVA	HYPOTHETICAL PROTEIN UL83	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	306-331					
FIG.63 HSVGU	HYPOTHETICAL PROTEIN 4A	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN UGANDA-1102)	130-187	238-272				
FIG.92 EBV	HYPOTHETICAL GENE 30 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	23-51					
FIG.92 EBV	HYPOTHETICAL PROTEIN BOLF4	EPSTEIN-BARR VIRUS (STRAIN B95-8)(HUMAN HERPESVIRUS 4)	106-144					
FIG.93 HSVSA	HYPOTHETICAL GENE 31 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	121-157					
FIG.93 HCMVA	PROTEIN UL93	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	207-410					
FIG.96 EBV	HYPOTHETICAL PROTEIN BORF2	EPSTEIN-BARR VIRUS (STRAIN B95-8)(HUMAN HERPESVIRUS 4)	111-145					
FIG.96 HCMVA	HYPOTHETICAL PROTEIN UL116	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	102-130	153-181				
FIG.97 HCMVA	HYPOTHETICAL PROTEIN UL117	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	129-163					
FIG.98 HCMVA	HYPOTHETICAL PROTEIN UL128	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	64-96					
FIG.99 HCMVA	HYPOTHETICAL PROTEIN UL129	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	66-99					
FIG.99 HCMVA	HYPOTHETICAL PROTEIN UL130	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	81-114					
PUNU EBV	EMA (EL-DNA GLYCOPROTEIN)	EPSTEIN-BARR VIRUS (STRAIN B95-8)(HUMAN HERPESVIRUS 4)	139-189					
PUNU VACCC	EMA (EL-DNA GLYCOPROTEIN)	VACCINIA VIRUS (STRAIN COPENHAGEN)	87-117					
PUNU VARTV	EMA (EL-DNA GLYCOPROTEIN)	VACCINIA VIRUS (STRAIN WR)	81-111					
PUNU VARV	URACIL-DNA GLYCOSYLASE	VARIOLA VIRUS	81-117					
PUS02 HCMVA	HYPOTHETICAL PROTEIN HOLF1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	43-73					
PUS07 HCMVA	HYPOTHETICAL PROTEIN HXLF1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	133-160					
PUS09 HCMVA	HYPOTHETICAL PROTEIN HJLF1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	179-213					
PUS10 HCMVA	HYPOTHETICAL PROTEIN HIXF1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	127-170					
PUS12 HCMVA	HYPOTHETICAL PROTEIN HVLF1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	29-67	113-142				
PUS13 HCMVA	HYPOTHETICAL PROTEIN HVLF3	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	11-45					
PUS15 HCMVA	HYPOTHETICAL PROTEIN HVLF2	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	343-375					
PUS16 HCMVA	HYPOTHETICAL PROTEIN HVLF3	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	131-188	343-374				
PUS18 HCMVA	MEMBRANE PROTEIN HVLF1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	185-222					
PUS20 HCMVA	VARIANT MEMBRANE PROTEIN HVLF1	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	176-209					
PUS26 HCMVA	HYPOTHETICAL PROTEIN HRLF5	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	132-164					
PUS27 HCMVA	G-PROTEIN COUPLED RECEPTOR HOMOLOG (US28)	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	247-285					
PUS29 HCMVA	HYPOTHETICAL PROTEIN HRLF4	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	146-176					
PUS30 HCMVA	HYPOTHETICAL PROTEIN HRLF3	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	208-244					

PEGENT	P2XCTL2IP	AH Viruses (no bacteriophages)	AREA1	AREA1	AREA1	AREA2	AREA4	AREA3
PV11B_CAMVE	PROTEIN	3 IRUS	260-293					
PV11B_AMVLE	135 KD PROTEIN	ALFALFA MOSAIC VIRUS (STRAIN 425 ISOLATE LEIDEN	260-293					
PV11K_TRV9L	16 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN PLB)	24-62					
PV10J_NPVAC	HELICASE	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS	333-342					
PV11K_BSMV	17 KD PROTEIN	BARLEY STRIPE MOSAIC VIRUS (BSMV)	48-75					
PV11A_CMVSN	1A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN TNN)(CMV)	614-709					
PV11G_ASFB1	6.5 KD PROTEIN	AFRICAN SWINE FEVER VIRUS (STRAIN BA71V)(ASFV)	103-135					
PV11A_BRMV	2A PROTEIN	BROAD BEAN MOTTLE VIRUS	616-671					
PV11A_CCMV	2A PROTEIN	COWPEA CHLOROTIC MOTTLE VIRUS (CCMV)	135-160	657-700				
PV11A_CMVSN	2A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN KYU)(CMV)	208-245	292-320				
PV11A_CMVQ	2A PROTEIN	CUCUMBER MOSAIC VIRUS (STRAIN Q)(CMV)	203-240					
PV11A_TAV	2A PROTEIN	TOMATO ASPERMY VIRUS (TAV)	297-333					
PV10K_TRVTC	29 KD PROTEIN	TOBACCO RATTLE VIRUS (STRAIN TCM)	103-133					
PV11A_BRMV	2A PROTEIN	BROAD BEAN MOTTLE VIRUS	133-169					
PV11A_BMV	2A PROTEIN	BROME MOSAIC VIRUS (BMV)	159-189					
PV11A_CCMV	2A PROTEIN	COWPEA CHLOROTIC MOTTLE VIRUS (CCMV)	160-188					
PV11A_IBVB	2A PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)(IBV)	5-41					
PV11A_IBVM1	2A PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN M41)(IBV)	5-41					
PV11A_IBVP1	2A PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS	5-41					
PV11A_IBVUS	2A PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN UK/61/68)(IBV)	5-41					
PV11K_ACLSV	36 KD PROTEIN	APPLE CHLOROTIC LEAF SPOT VIRUS (ACLSV)	76-106					
PV11K_BWYVF	11 KD PROTEIN	BEET WESTERN YELLOWS VIRUS (ISOLATE FL.D)(BWYV)	164-198					
PV11K_BWYVG	11 KD PROTEIN	BEET WESTERN YELLOWS VIRUS (ISOLATE GRT)(BWYV)	164-198					
PV11K_PLRV1	16 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN 1)(PLRV)	160-192					
PV11K_PLRVW	16 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN)(PLRV)	160-192					
PV11K_BSMV	58 KD PROTEIN	BARLEY STRIPE MOSAIC VIRUS (BSMV)	320-353					
PV70K_PLRV1	69.7 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN 1)(PLRV)	220-253					
PV70K_PLRVW	69.7 KD PROTEIN	POTATO LEAFROLL VIRUS (STRAIN WAGENINGEN)(PLRV)	220-253					
PV90K_AMVLE	90 KD PROTEIN	ALFALFA MOSAIC VIRUS (STRAIN 425 ISOLATE LEIDEN)	103-131					
PVA04_VACCC	PROTEIN A4	VACCINIA VIRUS (STRAIN COPENHAGEN)	217-251					
PVA04_VACCV	PROTEIN A4	VACCINIA VIRUS (STRAIN WR)	217-251					
PVA04_VARV	PROTEIN A4	VARIOLA VIRUS	207-241					
PVA11_VACCC	PROTEIN A11	VACCINIA VIRUS (STRAIN COPENHAGEN)	95-131					
PVA11_VARV	PROTEIN A11	VARIOLA VIRUS	96-131					
PVA18_VACCC	35 KD ABORTIVE LATE PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	390-431					
PVA18_VACCV	35 KD ABORTIVE LATE PROTEIN	VACCINIA VIRUS (STRAIN WR)	390-431					
PVA18_VARV	35 KD ABORTIVE LATE PROTEIN	VARIOLA VIRUS	390-431					
PVA33_VACCC	PROTEIN A33	VACCINIA VIRUS (STRAIN COPENHAGEN)	41-111	170-203				
PVA33_VARV	PROTEIN A33	VARIOLA VIRUS	41-111	170-203				
PVA35_VACCC	PROTEIN A35	VACCINIA VIRUS (STRAIN COPENHAGEN)	42-76					
PVA35_VACCV	PROTEIN A35	VACCINIA VIRUS (STRAIN WR)	42-76					
PVA35_VARV	PROTEIN A35	VARIOLA VIRUS	42-76					
PVA32_VACCV	PROTEIN A32	VACCINIA VIRUS (STRAIN WR) AND VACCINIA VIRUS (STRAIN COPENHAGEN)	48-79					
PVA32_VARV	PROTEIN A32	VARIOLA VIRUS	48-79					
PVA40_VACCC	PROTEIN A40	VACCINIA VIRUS (STRAIN COPENHAGEN)	4-37					
PVA40_VACCV	PROTEIN A40	VACCINIA VIRUS (STRAIN COPENHAGEN)	94-129					
PVA40_VACCV	PROTEIN A40	VACCINIA VIRUS (STRAIN WR)	94-129					
PVA40_VARV	PROTEIN A40	VARIOLA VIRUS	95-130					
PVA41_VACCC	PROTEIN A41	VACCINIA VIRUS (STRAIN COPENHAGEN)	109-141					
PVA41_VACCV	PROTEIN A41	VACCINIA VIRUS (STRAIN WR)	109-141					
PVAL1_BCTV	ALI PROTEIN	BEET CURLY TOP VIRUS (BCTV)	89-118					
PVAL1_BGMV	ALI PROTEIN	BEAN GOLDEN MOSAIC VIRUS	89-118					
PVAL1_CLVX	ALI PROTEIN	CASSAVA LATENT VIRUS (STRAIN WEST KENYAN 844	88-117					
PVAL1_CLVN	ALI PROTEIN	CASSAVA LATENT VIRUS (STRAIN NIGERIAN)	88-117					
PVAL1_PYMVV	ALI PROTEIN	POTATO YELLOW MOSAIC VIRUS (ISOLATE VENEZUELA)	89-118					
PVAL1_TGMV	ALI PROTEIN	TOMATO GOLDEN MOSAIC VIRUS (TGMV)	90-119					
PVAL1_TYLCV	ALI PROTEIN	TOMATO YELLOW LEAF CURL VIRUS (STRAIN MARIANDI)(TYLCV)	89-118					
PVAL1_TYLCV	ALI PROTEIN	TOMATO YELLOW LEAF CURL VIRUS (TYLCV)	87-116					

PCGENE	PJUCTLZIP	All Viruses (no bacteriophage)							
FILE NAME	PROTEIN	VIRUS	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1	AREA1
PVAL1_BCTV	ALT PROTEIN	BEET CURLY TOP VIRUS (BCTV)	82-115						
PVAL1_CLVK	ALT PROTEIN	CASSAVA LATENT VIRUS (STRAIN WEST KENYAN 844)	77-113						
PVAL1_CLVM	ALT PROTEIN	CASSAVA LATENT VIRUS (STRAIN NIGERIAN)	77-113						
PVAL1_TYLCM	ALT PROTEIN	TOMATO YELLOW LEAF CURL VIRUS (STRAIN MADIANDE) (TYLCV)	76-116						
PVAL1_TYLCV	ALT PROTEIN	TOMATO YELLOW LEAF CURL VIRUS (TYLCV	77-113						
PVAT_CAMVC	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN CM-1841) (CAMV)	20-53	81-116					
PVAT_CAMVD	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D/H) (CAMV	20-53	102-130					
PVAT_CAMVE	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN D&C) (CAMV)	20-53	81-116					
PVAT_CAMVN	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN NY1155) (CAMV)	20-53	81-116					
PVAT_CAMVP	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN PV147) (CAMV)	20-53	81-116					
PVAT_CAMVS	APHID TRANSMISSION PROTEIN	CAULIFLOWER MOSAIC VIRUS (STRAIN STRASMOURG) (CAMV)	20-53	81-116					
PVB04_VACCC	PROTEIN B4	VACCINIA VIRUS (STRAIN COPENHAGEN)	124-156	486-535					
PVB04_VACCV	PROTEIN B4	VACCINIA VIRUS (STRAIN WR)	124-156	486-525					
PVB04_VARV	PROTEIN B4	VARIOLA VIRUS	486-525						
PVB16_COWPX	INTERLEUKIN-1 BINDING PROTEIN PRECURSOR	COWPOX VIRUS (CPV)	89-126						
PVB16_VACCV	INTERLEUKIN-1 BINDING PROTEIN PRECURSOR	VACCINIA VIRUS (STRAIN WR)	89-126						
PVB19_VACCC	SURFACE ANTIGEN 3 PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	211-244						
PVB19_VACCD	SURFACE ANTIGEN 3 PRECURSOR	VACCINIA VIRUS (STRAIN DAIREN 1)	211-243						
PVB19_VACCV	SURFACE ANTIGEN 3 PRECURSOR	VACCINIA VIRUS (STRAIN WR)	211-243						
PVB19_VARV	SURFACE ANTIGEN 3 PRECURSOR	VARIOLA VIRUS	211-242						
PVB81_BCMV	BR1 PROTEIN	BEAN GOLDEN MOSAIC VIRUS	166-198						
PVC01_SFVKA	G-PROTEIN COUPLED RECEPTOR HOMOLOG C)	SHOPE FIBROMA VIRUS (STRAIN KASZA) (SFV)	98-136						
PVC04_VACCC	PROTEIN C4	VACCINIA VIRUS (STRAIN COPENHAGEN)	109-139	182-216					
PVC04_VACCV	PROTEIN C4	VACCINIA VIRUS (STRAIN WR)	109-139	183-215					
PVC04_VARV	PROTEIN C4	VARIOLA VIRUS	109-139						
PVC06_VACCC	PROTEIN C6	VACCINIA VIRUS (STRAIN COPENHAGEN)	36-67						
PVC06_VACCV	PROTEIN C6	VACCINIA VIRUS (STRAIN WR)	36-67						
PVC06_VARV	PROTEIN C6	VARIOLA VIRUS	36-67						
PVC07_SFVKA	HYPOTHETICAL PROTEIN C7	SHOPE FIBROMA VIRUS (STRAIN KASZA) (SFV)	60-91						
PVC09_VACCC	PROTEIN C9	VACCINIA VIRUS (STRAIN COPENHAGEN)	171-210						
PVC09_VACCV	PROTEIN C9	VACCINIA VIRUS (STRAIN WR)	171-210						
PVC10_SFVKA	HYPOTHETICAL PROTEIN C10	SHOPE FIBROMA VIRUS (STRAIN KASZA) (SFV)	93-121						
PVC10_VACCC	PROTEIN C10	VACCINIA VIRUS (STRAIN COPENHAGEN)	121-158						
PVC10_VACCV	PROTEIN C10	VACCINIA VIRUS (STRAIN WR)	121-158						
PVC10_VARV	PROTEIN C10	VARIOLA VIRUS	121-158						
PVC11_VACCC	PROTEIN C11/B17	VACCINIA VIRUS (STRAIN COPENHAGEN)	1-34						
PVCAP_EBV	MAJOR CAPSID PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	146-183	300-330					
PVCAP_HCMVA	MAJOR CAPSID PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	43-78	118-161	259-286				
PVCAP_HSV1I	MAJOR CAPSID PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / 17+ STRAIN)	19-49						
PVCAP_HSV8U	MAJOR CAPSID PROTEIN	HERPES SIMPLEX VIRUS (TYPE 8 / STRAIN UGANDA-1102)	134-161	666-696	841-869				
PVCAP_HVEB1	MAJOR CAPSID PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB1P) (EHV-1)	13-54	198-232	273-301				
PVCAP_HVP1S	MAJOR CAPSID PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	144-179	198-236	734-769	1062-1096			
PVCAP_PRVIS	MAJOR CAPSID PROTEIN	PSEUDORABIES VIRUS (STRAIN INDIANA S) (PRV)	189-221	260-289					
PVCAP_VZVH	MAJOR CAPSID PROTEIN	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS) (VZV)	11-48						
PVCOA_AIVH3	MINOR CORE PROTEIN	HUMAN AIR NOVIRUS TYPE 3	86-115						
PVCOA_ADE05	MINOR CORE PROTEIN	HUMAN ADENOVIRUS TYPE 5	93-114						
PVD01_VACCC	PROTEIN D1	VACCINIA VIRUS (STRAIN COPENHAGEN)	13-50	146-182					
PVD01_VACCV	PROTEIN D1	VACCINIA VIRUS (STRAIN WR)	13-50	146-182					
PVD01_VARV	PROTEIN D1	VARIOLA VIRUS	13-50	146-182					
PVD01_IOMV	B16 KD PROTEIN	FOWLPOX VIRUS (STRAIN FP-1)	115-151						
PVD05_VACCC	PROTEIN D5	VACCINIA VIRUS (STRAIN COPENHAGEN)	120-148						
PVD05_VACCV	PROTEIN D5	VACCINIA VIRUS (STRAIN WR)	120-148						
PVD05_VARV	PROTEIN D5	VARIOLA VIRUS	120-148						
PVD10_FOWP1	PROTEIN D10	FOWLPOX VIRUS (STRAIN FP-1)	114-161						
PVI05_VACCD	PROTEIN E5	VACCINIA VIRUS (STRAIN DAIREN 1)	11-60						
PVI05_VACCC	PROTEIN E5	VACCINIA VIRUS (STRAIN COPENHAGEN)	226-260	438-458	511-540				
PVI05_VACCV	PROTEIN E5	VACCINIA VIRUS (STRAIN WR)	226-260	438-458	511-540				

PUGENE	PIR/TREMBL	All Viruses (no bacteriophage)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6
		VIRUS	430-458	511-540				
CHEMBANK	PROTEIN	VARIOLA VIRUS	1-41					
PVE00_VARV	PROTEIN E6	VACCINIA VIRUS (STRAIN COPENHAGEN)	1-41					
PVE10_VACCC	PROTEIN E10	VACCINIA VIRUS (STRAIN WR)	1-41					
PVE10_VACCV	PROTEIN E10	VARIOLA VIRUS	1-41					
PVE10_VARV	PROTEIN E10	HUMAN PAPILLOMAVIRUS TYPE 16	102-131					
PVE13_HPV16	PROBABLE E1 PROTEIN 2	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACNNPV)	45-77					
PVE18_NPVAC	EARLY 18.5 KD PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 5	6-35					
PVE1_HPV05	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	238-291					
PVE1_HPV11	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 13	253-318					
PVE1_HPV13	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	238-267	519-547				
PVE1_HPV33	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 35	230-263					
PVE1_HPV39	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 39	243-311					
PVE1_HPV41	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	165-238	193-221				
PVE1_HPV51	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 51	218-267					
PVE1_HPV58	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	6-35					
PVE1_HPV6B	E1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6B	238-291					
PVE1_PAPVD	E1 PROTEIN	DEER PAPILLOMAVIRUS	163-201					
PVE1_PCPVI	E1 PROTEIN	PYGMY CHIMPANZEE PAPILLOMAVIRUS TYPE 1	337-390					
PVE26_SPVAC	EARLY 25.9 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACNNPV)	118-150					
PVE3_BIPV3	E3 PROTEIN	RHESUS PAPILLOMAVIRUS TYPE 1 (RHPV 1)	131-182					
PVE3_RHPV1	E3 PROTEIN	RHESUS PAPILLOMAVIRUS TYPE 3	117-147					
PVE41_NPVAC	EARLY 40.9 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACNNPV)	14-53					
PVE5A_HPV11	PROBABLE E5A PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	19-56					
PVE5A_HPV16	PROBABLE E5A PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6B1	19-56					
PVE5A_HPV18	PROBABLE E5A PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6C	19-56					
PVE5A_HPV6B	PROBABLE E5A PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 13	19-56					
PVE5_HPV13	PROBABLE E5 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6B	89-118					
PVE5_HPV58	HUMAN E5 PROTEIN	PYGMY CHIMPANZEE PAPILLOMAVIRUS TYPE 1	31-58					
PVE5_PCPVI	PROBABLE E5 PROTEIN	RHESUS PAPILLOMAVIRUS TYPE 1 (RHPV 1)	109-140					
PVE5_RHPV1	PROBABLE E5 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	91-128					
PVE6_HPV16	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 3	55-90					
PVE6_HPV18	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6	55-90					
PVE6_HPV6B	E6 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 11	47-81					
PVE7_HPV04	E7 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 16	47-81					
PVE7_HPV16	E7 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 18	47-81					
PVE7_HPV18	E7 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 31	47-81					
PVE7_HPV31	E7 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 33	47-81					
PVE7_HPV33	E7 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 35	48-84					
PVE7_HPV35	E7 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 41	61-94					
PVE7_HPV41	E7 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 45	55-90					
PVE7_HPV45	E7 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 51	61-94					
PVE7_HPV51	E7 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 58	48-84					
PVE7_HPV58	E7 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6B	47-83					
PVE7_HPV6B	E7 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6B	48-84					
PVE7_PAPVD	E7 PROTEIN	DEER PAPILLOMAVIRUS	60-93					
PVE7_PAPVE	E7 PROTEIN	EUROPEAN ELK PAPILLOMAVIRUS (EEPV)	123-157	650-678				
PVEM_NPVAC	EARLY 94 KD PROTEIN	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACNNPV)	134-182					
PVEF_GVTN	VIRAL ENHANCING FACTOR	TRICHOPLUSIA NI GRANULOSIS VIRUS (TNGV)	16-51	137-177				
PVENV_IHEV	ENVELOPE PROTEIN	DERNE VIRUS (DEV)	48-84					
PVENV_DHBV11	ENVELOPE GLYCOPROTEIN PRECURSOR	DIPORI VIRUS (STRAIN INDIANA) (1961) (DHV)	297-335					
PVENV_MCV1	MAJOR ENVELOPE PROTEIN	MOLLUSCUM CONTAGIOSUM VIRUS SUBTYPE 1 (MCVI)	203-236					
PVENV_MCV2	MAJOR ENVELOPE PROTEIN	MOLLUSCUM CONTAGIOSUM VIRUS SUBTYPE 2 (MCVII)	203-236					
PVENV_VACCC	MAJOR ENVELOPE PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	208-241					
PVENV_VACCI	MAJOR ENVELOPE PROTEIN	VACCINIA VIRUS (STRAIN IHD-J)	208-241					
PVENV_VACTP	MAJOR ENVELOPE PROTEIN	VACCINIA VIRUS (STRAIN L-IVP)	208-241					
PVENV_VACCV	MAJOR ENVELOPE PROTEIN	VACCINIA VIRUS (STRAIN WR)	208-241					
PVENV_VARV	MAJOR ENVELOPE PROTEIN	VARIOLA VIRUS	135-187	206-241				

PCGENE	PIRCTLZIP	All Viruses (no bacteriophages)							
FILE NAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
PVF03_VACCC	PROTEIN F3	VACCINIA VIRUS (STRAIN COPENHAGEN)	2-40	61-93					
PVF03_VACCV	PROTEIN F3	VACCINIA VIRUS (STRAIN WR)	2-40	61-93					
PVFP1_FOWPV	PROTEIN FP1	FOWLPOX VIRUS	297-330						
PVFP4_FOWPV	PROTEIN FP4	FOWLPOX VIRUS	237-267						
PVFP7_CAPVK	PROTEIN F7	CAPRIPOXVIRUS (STRAIN KS-1)	89-118						
PVFUS_VACCC	14 KD FUSION PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	28-61						
PVFUS_VACCV	14 KD FUSION PROTEIN	VACCINIA VIRUS (STRAIN WR)	28-61						
PVFUS_VARV	14 KD FUSION PROTEIN	VARIOLA VIRUS	28-61						
PVG01_HSVII	HYPOTHETICAL GENE 1 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	317-346						
PVG02_HSVEB	HYPOTHETICAL GENE 2 PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (EHV-1)	183-196						
PVG03_VACCV	ISATIN-BETA-THIOSEMICARBAZONE DEPENDENT PROTE	VACCINIA VIRUS (STRAIN WR), AND VACCINIA VIRUS (STRAIN COPENHAGE	92-120						
PVG03_VARV	ISATIN-BETA-THIOSEMICARBAZONE DEPENDENT PROTE	VARIOLA VIRUS	92-120						
PVG03_HSVII	HYPOTHETICAL GENE 3 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	108-136						
PVG06_HSVII	HYPOTHETICAL GENE 6 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	54-83						
PVG06_VACCC	PROTEIN G6	VACCINIA VIRUS (STRAIN COPENHAGEN)	99-136						
PVG06_VARV	PROTEIN G6	VARIOLA VIRUS	99-136						
PVG07_VACCC	PROTEIN G7	VACCINIA VIRUS (STRAIN COPENHAGEN)	113-145						
PVG07_VARV	PROTEIN G7	VARIOLA VIRUS	113-145						
PVG09_VACCC	PROTEIN F1	VACCINIA VIRUS (STRAIN COPENHAGEN)	303-338						
PVG09_VACCV	PROTEIN F1	VACCINIA VIRUS (STRAIN WR)	266-301						
PVG09_VARV	PROTEIN F1	VARIOLA VIRUS	303-338						
PVG11_HSVII	HYPOTHETICAL GENE 11 ZINC-BINDING PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	150-183						
PVG12_HSVII	HYPOTHETICAL GENE 12 ZINC-BINDING PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	206-243						
PVG12_HSVSA	HYPOTHETICAL GENE 12 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	68-106						
PVG1_SPV1R	CAPSID PROTEIN	SPIROPLASMA VIRUS SPV1-R8A2 B	254-292	303-337	414-452				
PVG22_HSVII	HYPOTHETICAL GENE 22 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	300-337	647-678					
PVG23_HSVII	HYPOTHETICAL GENE 23 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	70-108						
PVG26_HSVII	HYPOTHETICAL GENE 26 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	94-125						
PVG27_HSVSA	HYPOTHETICAL GENE 27 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	36-74						
PVG28_HSVII	HYPOTHETICAL GENE 28 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	491-521						
PVG3R_AMEPV	HYPOTHETICAL G3R PROTEIN	AMSACTA MOOREI ENTOMOPOXVIRUS (AMEPV)	180-217						
PVG2_SPV4	GENE 2 PROTEIN	SPIROPLASMA VIRUS 4 (SPV4)	209-244						
PVG35_HSVII	HYPOTHETICAL GENE 35 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	35-46	190-226					
PVG36_HSVSA	POSSIBLE TYROSINE-PROTEIN KINASE	HERPESVIRUS SAIMIRI (STRAIN 11)	151-185						
PVG39_HSVII	HYPOTHETICAL GENE 39 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	543-577	648-682					
PVG40_HSVSA	HYPOTHETICAL GENE 40 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	187-216						
PVG41_HSVII	HYPOTHETICAL GENE 41 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	11-45	202-233					
PVG42_HSVII	HYPOTHETICAL GENE 42 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	91-125						
PVG43_HSVII	HYPOTHETICAL GENE 43 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	109-140	157-185					
PVG46_HSVII	PROBABLE MAJOR GLYCOPROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	888-923						
PVG48_HSVSA	HYPOTHETICAL GENE 48 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	329-357						
PVG50_HSVSA	PROBABLE TRANSCRIPTION ACTIVATOR EDRF1	HERPESVIRUS SAIMIRI (STRAIN 11)	113-141						
PVG51_HSVII	HYPOTHETICAL GENE 51 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	29-64	94-120					
PVG53_HSVII	HYPOTHETICAL GENE 53 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	96-134						
PVG55_HSVII	HYPOTHETICAL GENE 55 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	100-139						
PVG56_HSVII	HYPOTHETICAL GENE 56 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	364-396	631-667	1091-1126				
PVG58_HSVII	HYPOTHETICAL GENE 58 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	342-375	480-508					
PVG58_HSVSA	GENE 58 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	23-60	195-233					
PVG59_HSVII	HYPOTHETICAL GENE 59 MEMBRANE PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	82-118						
PVG61_HSVII	HYPOTHETICAL GENE 61 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	76-109						
PVG64_HSVII	HYPOTHETICAL GENE 64 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	55-89	163-401	420-452				
PVG65_HSVII	HYPOTHETICAL GENE 65 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	801-836	1146-1174	1290-1326				
PVG67_HSVII	HYPOTHETICAL GENE 67 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	1150-1185						
PVG6_SPV1R	GENE 6 PROTEIN	SPIROPLASMA VIRUS SPV1-R8A2 B	60-89						
PVG71_HSVSA	HYPOTHETICAL GENE 71 PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	128-158						
PVG72_HSVII	HYPOTHETICAL GENE 72 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	445-478	720-751	1158-1189	1252-1285			
PVG75_HSVII	HYPOTHETICAL GENE 75 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)	283-291	389-422					

FEGLNE	FISCTLIP	All Viruses (no bacteriophage!!)	AREA1	AREA1	AREA2	AREA4	AREA5	AREA6	AREA7
FEGLE_BANK	PROTEIN	VIRUS	187-231						
FEGL6_HSV11	HYPOTHETICAL GENE 76 PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS)(CCV)	18-46						
FEGL7_SPVIR	GENE 7 PROTEIN	SPIROPLASMA VIRUS SPV1-ARA1 B	1716-1747	1854-1891	2108-2146	3601-3633			
FEGL1_IBVB	E1 PROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)(IBV)	80-115	153-185					
FEGL10_HCMVA	GLYCOPROTEIN H(GH) PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	1239-1294						
FEGL2_CVBF	E1 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN F15)	651-681						
FEGL3_CVBL9	E1 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN L9)	1239-1251						
FEGL4_CVBLV	E1 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN LY-138)	1239-1294						
FEGL5_CVBN1	E1 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN MEBUS)	1239-1294						
FEGL6_CVBQ	E1 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN QUEBEC)	1239-1294						
FEGL7_CVBV	E1 GLYCOPROTEIN PRECURSOR	BOVINE CORONAVIRUS (STRAIN VACCINE)	1033-1088						
FEGL8_CVH22	E1 GLYCOPROTEIN PRECURSOR	HUMAN CORONAVIRUS (STRAIN 229E)	1267-1304						
FEGL9_CVMA5	E1 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN WILD TYPE 4)(MHV-4)	1215-1253						
FEGLA_CVMA5	E1 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN A59	1267-1304						
FEGLB_CVMJC	E1 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN JHMV / VARIANT CL-2)	1267-1304						
FEGLC_CVMJH	E1 GLYCOPROTEIN PRECURSOR	MURINE CORONAVIRUS MHV (STRAIN JHM)	1128-1163						
FEGLD_CVPF5	E1 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS	637-665	736-764	1328-1361				
FEGLE_CVPM5	E1 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS	637-665	736-764	1328-1361				
FEGLF_CVPPR	E1 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS	610-663	734-761	1326-1361				
FEGL2_CVPPU	E1 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS	610-663	734-761	1326-1361				
FEGL3_CVPR1	E1 GLYCOPROTEIN PRECURSOR	PORCINE RESPIRATORY CORONAVIRUS	513-540	1104-1139					
FEGL4_CVPRS1	E1 GLYCOPROTEIN PRECURSOR	PORCINE RESPIRATORY CORONAVIRUS (STRAIN RM4)(PRCV)	409-441	513-540	1104-1139				
FEGL5_CVPR1	E1 GLYCOPROTEIN PRECURSOR	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN NEB	636-663	734-761	1326-1361				
FEGL6_FIPV	E1 GLYCOPROTEIN PRECURSOR	FELINE INFECTIOUS PERITONITIS VIRUS (STRAIN 79-1146)(FIPV)	633-660	730-757	1321-1356				
FEGL7_IBVB	E1 GLYCOPROTEIN PRECURSOR	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE)(IBV)	153-188						
FEGLB_HCMVA	GLYCOPROTEIN B PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	116-147	706-743					
FEGLB_HCMVT	GLYCOPROTEIN B PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	116-147	703-744					
FEGLB_HSV1G	GLYCOPROTEIN B	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN UGANDA-1102)	72-110						
FEGLB_HSV11	GLYCOPROTEIN I PRECURSOR	HERPESVIRUS TYPE 1	234-288						
FEGLB_HSV2I	GLYCOPROTEIN H-I PRECURSOR	BOVINE HERPESVIRUS TYPE 2 (STRAIN HA1V) (BOVINE MAMMILLITIS VIRUS	745-774						
FEGLB_HSVBC	GLYCOPROTEIN I PRECURSOR	BOVINE HERPESVIRUS TYPE 1 (STRAIN COOPER	233-287						
FEGLB_ILTVB	GLYCOPROTEIN B PRECURSOR	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN 63-2)(ILTV)	442-472						
FEGLB_ILTVS	GLYCOPROTEIN B PRECURSOR	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN SA-2)(ILTV)	432-461						
FEGLB_ILTVT	GLYCOPROTEIN B PRECURSOR	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN THORNE VB2)(ILTV)	432-461						
FEGLB_MCMVS	GLYCOPROTEIN B PRECURSOR	MURINE CYTOMEGALOVIRUS (STRAIN SMITH)	135-163	738-776					
FEGLC_HSV11	GLYCOPROTEIN C PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	467-500						
FEGLC_HSV1K	GLYCOPROTEIN C PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN KOS)	467-500						
FEGLC_HSV1	GLYCOPROTEIN C PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2)	435-465						
FEGLC_HSV2J	GLYCOPROTEIN C PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 2 / STRAIN JJJ)	436-466						
FEGLC_HSVMC	GLYCOPROTEIN G(G) PRECURSOR	BOVINE HERPESVIRUS TYPE 1 (STRAIN COOPER)	475-507						
FEGLC_VZVD	GLYCOPROTEIN C(V)	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS)(VZV)	351-388	513-548					
FEGLC_VZVS	GLYCOPROTEIN C(V)	VARICELLA-ZOSTER VIRUS (STRAIN SCOTT)(VZV)	351-388	513-548					
FEGLD_HSVEA	GLYCOPROTEIN D PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB1)(EHV-1)	346-376						
FEGLD_HSVI1	GLYCOPROTEIN D PRECURSOR	EQUINE HERPESVIRUS TYPE 1	41-76	390-420					
FEGLD_HSVEK	GLYCOPROTEIN D PRECURSOR	EQUINE HERPESVIRUS TYPE 1	41-70	390-420					
FEGLE_HSVE4	GLYCOPROTEIN E	EQUINE HERPESVIRUS TYPE 4	93-125						
FEGLE_HSVER	GLYCOPROTEIN E PRECURSOR	EQUINE HERPESVIRUS TYPE 1	61-100	390-430					
FEGLE_HSVEL	GLYCOPROTEIN E PRECURSOR	EQUINE HERPESVIRUS TYPE 1	61-100	392-432					
FEGLF_HSV2I	GLYCOPROTEIN G PRECURSOR	HERPESVIRUS (STRAIN HAM) (HSV)	112-169						
FEGLF_HSVJA	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN A51908) (BRSV)	265-301	482-511					
FEGLF_HSVJC	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN COPENHAGEN) (BRSV)	484-513						
FEGLF_HSVJL	FUSION GLYCOPROTEIN PRECURSOR	BOVINE RESPIRATORY SYNCYTIAL VIRUS (STRAIN 1BM) (BRS)	484-513						
FEGLF_BRSVR	FUSION GLYCOPROTEIN PRECURSOR	CANINE DISTEMPER VIRUS (STRAIN ONDERSTEPOORT) (CDV)	561-596						
FEGLF_CDVO	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN 18537)	484-513						
FEGLF_HRSVA	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	484-513						
FEGLF_HRSVL	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP A / STRAIN LONG)	484-513						
FEGLF_HRSVS	FUSION GLYCOPROTEIN PRECURSOR	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN RSS-2)	484-513						
FEGLF_MEASE	FUSION GLYCOPROTEIN PRECURSOR	MEASLES VIRUS (STRAIN EDMONSTON)	224-256	451-484					

PGENE	PDC 11 2IP	All Viruses (no bacteriophages)	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
FILE_BANK	PROTEIN	VIRUS	221-259	431-447					
PVGLF_MEASI	FUSION GLYCOPROTEIN PRECURSOR	MEASLES VIRUS (STRAIN IP-3-CA	221-259	431-447					
PVGLF_MEASY	FUSION GLYCOPROTEIN PRECURSOR	MEASLES VIRUS (STRAIN YAMAGATA-1)	224-256	431-484					
PVGLF_MUASH	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN SBL-1)	5-38	446-474					
PVGLF_MUAPM	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN MIYAHARA VACCINE)	446-474						
PVGLF_MUAPR	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN RW)	446-474						
PVGLF_MUAPS	FUSION GLYCOPROTEIN PRECURSOR	MUMPS VIRUS (STRAIN SBL)	5-38	446-474					
PVGLF_NDVI	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN ITALIEN/45) (NDV)	132-165						
PVGLF_NDVL	FUSION GLYCOPROTEIN PRECURSOR	NEWCASTLE DISEASE VIRUS (STRAIN LASOTA) (NDV)	132-165						
PVGLF_PHODV	FUSION GLYCOPROTEIN PRECURSOR	PHOCINE DISTEMPER VIRUS	331-365						
PVGLF_PIIHC	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 1 VIRUS (STRAIN C35)	436-488						
PVGLF_PIIB	FUSION GLYCOPROTEIN PRECURSOR	BOVINE PARAINFLUENZA 3 VIRUS	433-481						
PVGLF_PIIH4	FUSION GLYCOPROTEIN PRECURSOR	HUMAN PARAINFLUENZA 3 VIRUS (STRAIN NIH 47885	433-481						
PVGLF_RINDK	FUSION GLYCOPROTEIN PRECURSOR	RINDERPEST VIRUS (STRAIN KABETE O) (RDV)	328-353	447-480					
PVGLF_RINDL	FUSION GLYCOPROTEIN PRECURSOR	RINDERPEST VIRUS (STRAIN LEDING) (RDV)	328-353	447-480					
PVGLF_SENDJ	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN 2 / HOST MUTANTS)	460-488						
PVGLF_SENDF	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN FUSHIKI)	460-488						
PVGLF_SENDH	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN HARRIS)	460-488						
PVGLF_SENDI	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN HVJ)	460-488						
PVGLF_SENDZ	FUSION GLYCOPROTEIN PRECURSOR	SENDAI VIRUS (STRAIN Z)	460-488						
PVGLF_SVI	FUSION GLYCOPROTEIN PRECURSOR	SIMIAN VIRUS 5 (STRAIN W3) (SV5)	446-474						
PVGLF_TRTV	FUSION GLYCOPROTEIN PRECURSOR	TURKEY RHINOTRACHEITIS VIRUS (TRTV)	433-481						
PVGLG_HSVEB	GLYCOPROTEIN G PRECURSOR	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (EHV-1)	337-364						
PVGLG_SYNV	SPIKE GLYCOPROTEIN PRECURSOR	SONCHUS YELLOW NET VIRUS (SYNV)	324-353						
PVGLG_VSVIG	SPIKE GLYCOPROTEIN PRECURSOR	VESICULAR STOMATITIS VIRUS (SEROTYPE INDIANA / STRAIN GLASGOW)	430-488						
PVGLG_VSVID	SPIKE GLYCOPROTEIN PRECURSOR	VESICULAR STOMATITIS VIRUS (SEROTYPE NEW JERSEY / STRAIN OGDEN)	437-492						
PVGLG_VSVIO	SPIKE GLYCOPROTEIN PRECURSOR	VESICULAR STOMATITIS VIRUS (STRAIN ORSAY)	430-488						
PVGLG_VSVSJ	SPIKE GLYCOPROTEIN PRECURSOR	VESICULAR STOMATITIS VIRUS (STRAIN SAN JUAN)	430-488						
PVGLH_HCMVA	GLYCOPROTEIN H PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN ADI69)	691-719						
PVGLH_HCMVT	GLYCOPROTEIN H PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	690-718						
PVGLH_HSVG6	GLYCOPROTEIN H PRECURSOR	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	213-247	640-677					
PVGLH_HSVE4	GLYCOPROTEIN H PRECURSOR	EQUINE HERPESVIRUS TYPE 4	214-250						
PVGLH_HSVEB	GLYCOPROTEIN H PRECURSOR	EQUINE HERPESVIRUS TYPE 1	187-243						
PVGLH_HCMVA	TRANSMEMBRANE PROTEIN UL115 PRECURSOR	HUMAN CYTOMEGALOVIRUS (STRAIN ADI69)	138-194						
PVGLM_BUNGE	M POLYPROTEIN PRECURSOR	HUNTAVIRUS GERMISTON	187-227	418-468	982-1030	1049-1084			
PVGLM_HUNTJ	M POLYPROTEIN PRECURSOR	HUNTAVIRUS HANTAAN (STRAIN 76-118)	140-230						
PVGLM_HUNSN	M POLYPROTEIN PRECURSOR	HUNTAVIRUS SNOWSHOE LAKE	190-220	344-381					
PVGLM_HUNYW	M POLYPROTEIN PRECURSOR	HUNTAVIRUS ANDES VIRUS	193-228	424-472	827-854				
PVGLM_THKSV	M POLYPROTEIN PRECURSOR	THOTTOPALAM VIRUS	244-281	617-672	886-911	933-965	1401-1441		
PVGLM_HANTH	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN HOJO)	610-641	1067-1119					
PVGLM_HANTJ	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN HOJO)	188-222	612-641	1082-1120				
PVGLM_HANTL	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN L99)	188-222	612-641	1083-1121				
PVGLM_HANTP	M POLYPROTEIN PRECURSOR	HANTAAN VIRUS (STRAIN 76-118)	188-222	612-641	1083-1121				
PVGLM_HSV	M POLYPROTEIN PRECURSOR	INPATIENS NECROTIC SPOT VIRUS (INSV)	289-307	1028-1062					
PVGLM_PHV	M POLYPROTEIN PRECURSOR	PROSPECT HILL VIRUS (PHV)	610-649	1088-1121					
PVGLM_PTV	M POLYPROTEIN PRECURSOR	PUNTA TORO PHLEBOVIRUS	949-982	1275-1309					
PVGLM_PUUMH	M POLYPROTEIN PRECURSOR	PUUMALA VIRUS (STRAIN HALLNAS III)	620-653	1092-1125					
PVGLM_PUUMS	M POLYPROTEIN PRECURSOR	PUUMALA VIRUS (STRAIN SOTKAMO)	620-653	1092-1125					
PVGLM_RVFV	M POLYPROTEIN PRECURSOR	RIFT VALLEY FEVER VIRUS (RVFV)	620-650	1110-1143					
PVGLM_RVFVZ	M POLYPROTEIN PRECURSOR	RIFT VALLEY FEVER VIRUS (STRAIN ZH-548 M12) (RVFV)	620-650	1110-1143	1156-1188				
PVGLM_SEOUR	M POLYPROTEIN PRECURSOR	SEOUL VIRUS (STRAIN 80-39)	610-641	1081-1119					
PVGLM_SEOUS	M POLYPROTEIN PRECURSOR	SEOUL VIRUS (STRAIN B22)	601-641	1081-1119					
PVGLM_SEPUK	M POLYPROTEIN PRECURSOR	KENYA VIRUS (STRAIN KEN-71/SEPURU RAT VIRUS)	610-641	1081-1119					
PVGLM_UUK	M POLYPROTEIN PRECURSOR	UUKUNIEMI VIRUS (UUK)	611-664	966-995					
PVGLP_BEV	PEPLOMER GLYCOPROTEIN PRECURSOR	BLUE TONGUE VIRUS (BEV)	1491-1526						
PVGLV_JUNIN	GLYCOPROTEIN POLYPROTEIN PRECURSOR	JUNIN ARENAVIRUS	13-45						
PVGLV_LASSG	GLYCOPROTEIN POLYPROTEIN PRECURSOR	LASSA VIRUS (STRAIN GA391)	337-365						
PVGLV_LASSI	GLYCOPROTEIN POLYPROTEIN PRECURSOR	LASSA VIRUS (STRAIN JOSIAH)	218-246						

PGCGENE	P1SCTLZIP	All Viruses (no bacteriophages)	AREA 1	AREA 1	AREA 2	AREA 2	AREA 3	AREA 3
FILE NAME	PROTEIN	VIRUS	12-50					
PVGLY_PIAV	GLYCOPROTEIN POLYPROTEIN PRECURSOR	PICHINDE ARENAVIRUS	12-50					
PVGLY_TACV	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACARIBE VIRUS	12-50		89-124			
PVGLY_TACVJ	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACARIBE VIRUS (STRAIN VS	12-50		89-124			
PVGLY_TACVT	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACARIBE VIRUS (STRAIN VI)	12-50		89-124			
PVGLY_TACVT	GLYCOPROTEIN POLYPROTEIN PRECURSOR	TACARIBE VIRUS (STRAIN TRVL 11598)	12-50		89-124			
PVGNB_CPMV	GENOME POLYPROTEIN B	COWPEA MOSAIC VIRUS (CPMV)	1527-1555					
PVGNM_CPMV	GENOME POLYPROTEIN M	COWPEA MOSAIC VIRUS (CPMV)	206-242	741-771				
PVGNM_CPSMV	GENOME POLYPROTEIN M	COWPEA SEVERE MOSAIC VIRUS (RCMV)	50-86	678-715				
PVGNM_RCMV	GENOME POLYPROTEIN M	RED CLOVER MOTTLE VIRUS (RCMV)	766-799					
PVGP3_EBV	PROBABLE MEMBRANE ANTIGEN GP220	EPSTEIN-BARR VIRUS (STRAIN B95-8)(HUMAN HERPESVIRUS 4)	78-111					
PVGP3_EBV	ENVELOPE GLYCOPROTEIN GP340	EPSTEIN-BARR VIRUS (STRAIN B95-8)(HUMAN HERPESVIRUS 4)	78-111					
PVM03_VACCC	LATE PROTEIN H3	VACCINIA VIRUS (STRAIN COPENHAGEN)	54-89					
PVM03_VACCV	LATE PROTEIN H3	VACCINIA VIRUS (STRAIN WR)	54-89					
PVM03_VARV	LATE PROTEIN H3	VARIOLA VIRUS						
PVM05_VACCC	PROTEIN I5	VACCINIA VIRUS (STRAIN COPENHAGEN)	113-149					
PVM05_VACCV	PROTEIN I5	VACCINIA VIRUS (STRAIN WR)	113-149					
PVM05_VARV	PROTEIN I5	VARIOLA VIRUS	133-167					
PVM01_LSV	PROBABLE HELICASE	LUMPY SKIN DISEASE VIRUS (LSDV)	107-141					
PVM01_VACCC	PROTEIN I1	VACCINIA VIRUS (STRAIN COPENHAGEN)	54-82					
PVM01_VARV	PROTEIN I1	VARIOLA VIRUS	54-82					
PVM06_VACCV	PROTEIN I6	VACCINIA VIRUS (STRAIN WR)	55-88					
PVM06_VARV	PROTEIN I6	VARIOLA VIRUS	55-88					
PVM08_VACCC	PUTATIVE RNA HELICASE I8	VACCINIA VIRUS (STRAIN COPENHAGEN)	591-624					
PVM08_VACCV	PUTATIVE RNA HELICASE I8	VACCINIA VIRUS (STRAIN WR)	591-624					
PVM08_VARV	PUTATIVE RNA HELICASE I8	VARIOLA VIRUS	591-624					
PVE1_HCMVA	33 KD IMMEDIATE-EARLY PROTEIN 1	HUMAN CYTOMEGALOVIRUS (STRAIN ADI69)	243-271					
PVE1_HCMVT	33 KD IMMEDIATE-EARLY PROTEIN 1	HUMAN CYTOMEGALOVIRUS (STRAIN TOWNE)	243-271					
PVIF_BIV26	VIRION INFECTIVITY FACTOR	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 1026) (BIV)	42-78					
PVIF_BIV27	VIRION INFECTIVITY FACTOR	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127) (BIV)	42-78					
PVIF_SIVCP	VIRION INFECTIVITY FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE CP1)	46-78					
PVIF_SIVGB	VIRION INFECTIVITY FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE GB1)	82-111					
PVIF_SIVMK	VIRION INFECTIVITY FACTOR	SIMIAN IMMUNODEFICIENCY VIRUS (ISOLATE MM142) (SIVMAC)	135-159					
PVM09_EBVA	PROBABLE INTEGRAL MEMBRANE PROTEIN (BNLF1)	EPSTEIN-BARR VIRUS (STRAIN B95-8)(HUMAN HERPESVIRUS 4)	60-100					
PVM09_HCMVA	PROBABLE INTEGRAL MEMBRANE PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN ADI69)	83-114	136-171	230-261			
PVM09_HSV11	PROBABLE INTEGRAL MEMBRANE PROTEIN	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN 17)	24-56	91-127	145-180	232-261		
PVM09_HSV1B	PROBABLE INTEGRAL MEMBRANE PROTEIN	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P)(EHV-1)	76-111					
PVM09_HSV1A	INTEGRAL MEMBRANE PROTEIN	HERPES VIRUS SAIMIRI (STRAIN 11)	331-391					
PVM07_SKV1	PROBABLE INTEGRASE	SKIN FIBROMA VIRUS 1 (LIKE PARTICLE) (SKV1)	54-83					
PVM05_VACCC	PROTEIN I5	VACCINIA VIRUS (STRAIN COPENHAGEN)	54-83					
PVM05_VACCV	PROTEIN I5	VACCINIA VIRUS (STRAIN WR)	54-83					
PVM05_VARV	PROTEIN I5	VARIOLA VIRUS	54-83					
PVM04_VACCC	PROTEIN K4	VACCINIA VIRUS (STRAIN COPENHAGEN)	87-120					
PVM04_VACCV	PROTEIN K4	VACCINIA VIRUS (STRAIN WR)	87-120					
PVM03_VACCC	PROTEIN K3	VACCINIA VIRUS (STRAIN COPENHAGEN)	74-103					
PVM03_VACCV	PROTEIN K3	VACCINIA VIRUS (STRAIN WR)	87-116					
PVM02_VACCC	PROTEIN L3	VACCINIA VIRUS (STRAIN COPENHAGEN)	39-76					
PVM02_VACCV	PROTEIN L3	VACCINIA VIRUS (STRAIN WR)	39-76					
PVM02_VARV	PROTEIN L3	VARIOLA VIRUS	39-76					
PVL01_VACCC	PROTEIN L1	VACCINIA VIRUS (STRAIN COPENHAGEN)	293-332					
PVL01_VACCV	PROTEIN L1	VACCINIA VIRUS (STRAIN WR)	293-332					
PVL01_VARV	PROTEIN L1	VARIOLA VIRUS	291-331					
PVL05_VACCV	PROTEIN L5	VACCINIA VIRUS (STRAIN WR), AND VACCINIA VIRUS (STRAIN COPENHAGE	16-41					
PVL05_VARV	PROTEIN L5	VARIOLA VIRUS	16-43					
PVL1_HPV1B	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 1B	333-406					
PVL1_CRPVK	PROBABLE L1 PROTEIN	COTTONTAIL RABBIT (SHOPE) PAPILLOMAVIRUS (STRAIN KANSAS)(CRPV)	28-57					
PVL1_HPV1A	PROBABLE L1 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 1A	27-57					
PVL2_HPV6B	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 6B	27-57					
PVL2_HPV1A	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 1A	26-56					

PCGENE	PIRCTLZIP	All Viruses (no bacteriophages)							
GENENAME	PROTEIN	VIRUS	AREA 1	AREA 1	AREA 2	AREA 4	AREA 5	AREA 6	AREA 7
PVL2_IPV39	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 39	29-59	285-313					
PVL2_IPV42	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 42	344-379						
PVL2_IPV47	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 47	26-57						
PVL2_IPV51	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 51	29-59						
PVL2_IPV5B	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE 5B	27-57						
PVL2_IPVME	PROBABLE L2 PROTEIN	HUMAN PAPILLOMAVIRUS TYPE ME180	29-59						
PVL2_PCPV1	PROBABLE L2 PROTEIN	PYGMY CHIMPANZEE PAPILLOMAVIRUS TYPE 1	29-59						
PVL96_IRVI	L96 PROTEIN	TIPULA IRIDESCENT VIRUS (TIV) (INSECT IRIDESCENT VIRUS TYPE 1)	144-177	686-718					
PVSII_REOVD	MINOR VIRION STRUCTURAL PROTEIN MU-2	REOVIRUS (TYPE 3 / STRAIN DEARING	280-318	324-361					
PVSII_REOVL	MINOR VIRION STRUCTURAL PROTEIN MU-2	REOVIRUS (TYPE 1 / STRAIN LANG)	280-318						
PVSIII_REOVD	MAJOR VIRION STRUCTURAL PROTEIN MU-1/MU-1C	REOVIRUS (TYPE 3 / STRAIN DEARING)	168-199						
PVSIII_REOVD	MAJOR VIRION STRUCTURAL PROTEIN MU-1/MU-1C	REOVIRUS (TYPE 3 / STRAIN DEARING)	168-199						
PVSIII_REOVJ	MAJOR VIRION STRUCTURAL PROTEIN MU-1/MU-1C	REOVIRUS (TYPE 2 / STRAIN D5/JONES)	168-199						
PVSIII_REOVL	MAJOR VIRION STRUCTURAL PROTEIN MU-1/MU-1C	REOVIRUS (TYPE 1 / STRAIN LANG)	168-199						
PVSIII_REOVD	MAJOR NONSTRUCTURAL PROTEIN MU-NS	REOVIRUS (TYPE 3 / STRAIN DEARING)	333-364						
PVSIAT_SV5	MATRIX PROTEIN	SIMIAN VIRUS 5 (STRAIN W3) (SV5)	308-342						
PVSIAT_TRTV	MATRIX PROTEIN	TURKEY RHINOTRACHEITIS VIRUS (TRTV)	122-150						
PVSIEI_CVBM	E1 GLYCOPROTEIN	BOVINE CORONAVIRUS (STRAIN MEBUS)	64-102						
PVSIEI_CVHOC	E1 GLYCOPROTEIN	HUMAN CORONAVIRUS (STRAIN OC43)	64-102						
PVSIEI_CVMA5	E1 GLYCOPROTEIN	MURINE CORONAVIRUS MHV (STRAIN A59)	65-103						
PVSIEI_CVMJH	E1 GLYCOPROTEIN	MURINE CORONAVIRUS MHV (STRAIN JHM)	65-103						
PVSIEI_CVTKE	E1 GLYCOPROTEIN	TURKEY ENTERIC CORONAVIRUS (TCV)	64-102						
PVSIEI_IBVB	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE) (IBV)	73-101						
PVSIEI_IBVB2	E1 GLYCOPROTEIN	AVIAN INFECTIOUS BRONCHITIS VIRUS (STRAIN BEAUDETTE M42) (IBV)	73-101						
PVSIEM_EBV	PROBABLE MEMBRANE PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	178-213						
PVSIP_CERV	MOVEMENT PROTEIN	CARNATION ETCHED RING VIRUS (CERV)	93-126						
PVSIP_SOCMV	MOVEMENT PROTEIN	SOYBEAN CHLOROTIC MOTTLE VIRUS	66-98	273-303					
PVSISA_HPBDB	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS (BROWN SHANGHAI DUCK ISOLATE S5) (DHBV)	201-238	269-302					
PVSISA_HPBDC	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS (STRAIN CHINA) (DHBV)	194-227	268-301					
PVSISA_HPBDU	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS (DHBV)	157-190	231-264					
PVSISA_HPBDW	MAJOR SURFACE ANTIGEN PRECURSOR	DUCK HEPATITIS B VIRUS (WHITE SHANGHAI DUCK ISOLATE S31) (DHBV)	194-228	269-302					
PVSISA_HPDGS	MAJOR SURFACE ANTIGEN PRECURSOR	GROUND SQUIRREL HEPATITIS VIRUS (GSHV)	209-243	271-307					
PVSISA_HPBHE	MAJOR SURFACE ANTIGEN PRECURSOR	HERON HEPATITIS B VIRUS	159-193	236-269					
PVSISA_HPBV0	MAJOR SURFACE ANTIGEN	HEPATITIS B VIRUS	70-98						
PVSISA_HPBV2	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW2)	244-272						
PVSISA_HPBV4	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADR4)	244-272						
PVSISA_HPBV9	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN 991)	244-272						
PVSISA_HPBVA	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (STRAIN ALPHA)	233-261						
PVSISA_HPBVD	MAJOR SURFACE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE AD)	70-98						
PVSISA_HPBVI	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN INDONESIA/PIDW420)	233-261						
PVSISA_HPBVJ	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN JAPAN/PJDW233)	233-261						
PVSISA_HPBVL	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (STRAIN LSH / CHIMPANZEE ISOLATE)	233-261						
PVSISA_HPBVN	MAJOR SURFACE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE ADR / STRAIN NC-1)	70-98						
PVSISA_HPBVO	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN OKINAWA/PODW282)	233-261						
PVSISA_HPBVP	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW / STRAIN PHILIPPINO/PFDW294)	244-272						
PVSISA_HPBVR	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADR)	244-272						
PVSISA_HPBVS	MAJOR SURFACE ANTIGEN	HEPATITIS B VIRUS (SUBTYPE AR)	70-98						
PVSISA_HPBVW	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADW)	233-261						
PVSISA_HPBVY	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE AYW)	233-261						
PVSISA_HPBVZ	MAJOR SURFACE ANTIGEN PRECURSOR	HEPATITIS B VIRUS (SUBTYPE ADYW)	233-261						
PVSISA_WHV1	MAJOR SURFACE ANTIGEN PRECURSOR	WOODCHUCK HEPATITIS VIRUS 1	207-241	269-305					
PVSISA_WHV39	MAJOR SURFACE ANTIGEN PRECURSOR	WOODCHUCK HEPATITIS VIRUS 39	212-246	274-310					
PVSISA_WHV7	MAJOR SURFACE ANTIGEN PRECURSOR	WOODCHUCK HEPATITIS VIRUS 7	212-246	274-310					
PVSISA_WHV8	MAJOR SURFACE ANTIGEN PRECURSOR	WOODCHUCK HEPATITIS VIRUS 8	212-246	274-310					
PVSISA_WHV8I	PROBABLE MAJOR SURFACE ANTIGEN PRECURSOR	WOODCHUCK HEPATITIS VIRUS 8 (INFECTIOUS CLONE)	212-246	274-305					
PVSISA_WHVW6	MAJOR SURFACE ANTIGEN PRECURSOR I	WOODCHUCK HEPATITIS VIRUS W64 (ISOLATE PWS23)	125-161						
PVMI2_IAZ11	MATRIX (M2) PROTEIN	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/1/1N)	10-42						

PGENE	FUNCTION	All Viruses (no bacteriophage)						
FULLNAME	PROTEIN	VIRUS	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6
PVM18_MYXVL	M-T8 PROTEIN	MYXOMA VIRUS (STRAIN LAUSANNE)	5-34	141-176				
PVM19_MYXVL	M1.8 PROTEIN	MYXOMA VIRUS (STRAIN LAUSANNE)	146-181					
PVM19_MYXVL	M1.8 PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	31-48					
PVM01_VACCC	PROTEIN N1	VACCINIA VIRUS (STRAIN WR)	31-48					
PVM02_VACCV	PROTEIN N2	VARIOLA VIRUS	11-48					
PVM02_VARV	PROTEIN N2	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	136-166					
PVN34_ROTPC	NONSTRUCTURAL PROTEIN NS34	ADENO-ASSOCIATED VIRUS 2 (AAV2)	163-196	163-661				
PVNCA_AAV2	DNA REPLICATION PROTEIN	BOVINE PARVOVIRUS (BPV)	180-217	146-377	418-471			
PVNC5_PAVNO	PROBABLE NONCAPSID PROTEIN NS1	AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4 / STRAIN VACCINE)	331-380					
PVNS1_AHSV4	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ALASKA/77)	114-144					
PVNS1_IAALA	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ANN ARBOR/6/60)	114-144					
PVNS1_IAANN	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/CHILE/1/83)	114-144					
PVNS1_IACHI	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/CHICKEN/GERMANY/N/49)	107-144					
PVNS1_IACKG	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/CHICKEN/JAPAN/24)	104-141					
PVNS1_IACKI	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/DUCK/ALBERTA/60/76)	107-144					
PVNS1_IADA1	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/DUCK/ENGLAND/1/56)	104-141					
PVNS1_IADE1	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/DUCK/UKRAINE/1/63)	104-141					
PVNS1_IADU1	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/FORT MONMOUTH/1/47)	114-144					
PVNS1_IAFOM	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/FORT WARREN/1/50)	114-144					
PVNS1_IAFOW	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/FOWL PLAGUE VIRUS/ROSTOCK/34)	101-144					
PVNS1_IAFPL	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/57)	114-144					
PVNS1_IALE1	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/LENINGRAD/134/1)	114-144					
PVNS1_IALEN	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/LLANDARD/ALBERTA/88/76)	107-144					
PVNS1_IALIA8	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ALLANDARD/NEW YORK/150/78)	107-144					
PVNS1_IALIAN	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/ALLANDARD/NEW YORK/6750/78)	101-144					
PVNS1_IALIAO	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/AYNAUD/ANEDA-T1/AU/76)	104-141					
PVNS1_IAMYN	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/119/79)	107-144					
PVNS1_IAPI0	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/121/79)	107-144					
PVNS1_IAPI1	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/268/78)	101-144					
PVNS1_IAPI3	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PINTAIL/ALBERTA/358/79)	101-144					
PVNS1_IAPUE	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/PUERTO RICO/8/34)	114-144					
PVNS1_IATK8	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TURKEY/BETHLEHEM-GUILT/1492-8/83)	101-144					
PVNS1_IATKC	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TURKEY/CANADA/63)	101-144					
PVNS1_IATR5	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TERN/SOUTH AFRICA/61)	104-141					
PVNS1_IATRT	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/TERN/TURKMENIA/1972)	107-144					
PVNS1_IAUD0	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/UDORN/307/72)	114-144					
PVNS1_IAUS5	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/USSR/90/77)	101-144					
PVNS1_IAZ11	NONSTRUCTURAL PROTEIN NS1	INFLUENZA A VIRUS (STRAIN A/SWINE/IOWA/15/30	101-144					
PVNS1_INBFA	NONSTRUCTURAL PROTEIN NS1	INFLUENZA B VIRUS (STRAIN B/FAY/79)	366-395					
PVNS1_INCAA	NONSTRUCTURAL PROTEIN NS1	INFLUENZA C VIRUS (STRAIN C/ANN ARBOR/1/50)	223-255					
PVNS1_INCCA	NONSTRUCTURAL PROTEIN NS1	INFLUENZA C VIRUS (STRAIN C/CALIFORNIA/78)	223-255					
PVNS2_IRSV1	NONSTRUCTURAL PROTEIN 2	HUMAN RESPIRATORY SYNCYTIAL VIRUS (SUBGROUP B / STRAIN 18537)	20-49					
PVNS2_IRSVA	NONSTRUCTURAL PROTEIN 2	HUMAN RESPIRATORY SYNCYTIAL VIRUS (STRAIN A2)	20-49					
PVNS3_INBLE	NONSTRUCTURAL PROTEIN NS3	INFLUENZA B VIRUS (STRAIN B/LEE/40	48-77					
PVNS3_INBYA	NONSTRUCTURAL PROTEIN NS3	INFLUENZA B VIRUS (STRAIN B/YAMAGATA/1/73)	48-77					
PVNS4_CVMS	NONSTRUCTURAL PROTEIN 4	MURINE CORONAVIRUS MHV (STRAIN S)	17-43					
PVNS4_CVPFS	NONSTRUCTURAL PROTEIN 4	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN FS77)	4-34					
PVNS4_CVPPU	NONSTRUCTURAL PROTEIN 4	PORCINE TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS (STRAIN PUR	4-39					
PVNS4_CVPRM	NONSTRUCTURAL PROTEIN 4	PORCINE RESPIRATORY CORONAVIRUS	4-39					
PVNS4_CVMA5	30 KD NONSTRUCTURAL PROTEIN	MURINE CORONAVIRUS MHV (STRAIN A59)	43-80					
PVNS4_CVMJH	30 KD NONSTRUCTURAL PROTEIN	MURINE CORONAVIRUS MHV (STRAIN JHM)	43-84					
PVNS7_INCGL	NONSTRUCTURAL PROTEINS NS1-NS2	INFLUENZA C VIRUS (STRAIN C/GREAT LAKES/1167/54)	223-255					
PVNS7_INCJH	NONSTRUCTURAL PROTEINS NS1-NS2	INFLUENZA C VIRUS (STRAIN C/JOHANNESBURG/1/66)	223-255					
PVNS7_INCMI	NONSTRUCTURAL PROTEINS NS1-NS2	INFLUENZA C VIRUS (STRAIN C/MISSISSIPPI/80)	222-255					
PVNS7_INCYA	NONSTRUCTURAL PROTEINS NS1-NS2	INFLUENZA C VIRUS (STRAIN C/YAMAGATA/1/81)	222-255					
PVNSA_PRVRA	PROBABLE NUCLEAR ANTIGEN	PSEUDORABIES VIRUS (STRAIN KASPAR) (PRV)	356-384					
PVNUC_INIVI	NUCLEOPROTEIN	INFLUENZA VIRUS (STRAIN INHAM/1/34) (H1N1)	397-331	441-470				

PCGENE	FUNCTION	All Viruses (no bacteriophage)						
FILENAME	PROTEIN	VIRUS	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7
PVNUC_INCKP	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/CHICKEN/PENNSYLVANIA/1103)	334-388						
PVNUC_INCKP	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/LONDON/1416/73)	334-388						
PVNUC_INHLO	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/PRAGUE/1/56)	334-388						
PVNUC_INJPR	NUCLEOPROTEIN	INFLUENZA A VIRUS (STRAIN A/EQUINE/TENNESSEE/5/86)	334-388						
PVNUC_INJTE	NUCLEOPROTEIN	MARBURG VIRUS (STRAIN MUSOKE)	16-46						
PVNUC_MABVM	NUCLEOPROTEIN	MARBURG VIRUS (STRAIN POPP)	16-46						
PVNUC_MABVP	NUCLEOPROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	511-539	550-581					
PVO01_VACCC	PROTEIN O1	VARIOLA VIRUS	511-539						
PVO01_VARV	PROTEIN O1	NARCISSUS MOSAIC VIRUS (NMV)	121-150	641-671					
PVOR1_NMV	186 KD PROTEIN	POTATO VIRUS M (STRAIN RUSSIAN) (PVM)	1667-1703						
PVOR1_PVMA	223 KD PROTEIN	STRAWBERRY MILD YELLOW EDGE-ASSOCIATED VIRUS (SMYEAV)	121-153						
PVOR1_SMYEA	190 KD PROTEIN	HERPESVIRUS SAIMIRI (STRAIN 11)	462-493						
PVP03_HSVSA	PROBABLE MEMBRANE ANTIGEN 3	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACNPV)	4-38						
PVP10_NPVAC	P10 PROTEIN	ORGYIA PSEUDOTSUGATA NUCLEOCAPSID POLYHEDROSIS VIRUS (OPNPV)	4-38						
PVP10_NPVOP	P10 PROTEIN	RICE BLACK STREAKED DWARF VIRUS (RBSDV)	260-291						
PVP10_RBSDV	PROTEIN S10	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (EHV-1)	239-268	287-323					
PVP19_HSVEB	CAPSID ASSEMBLY AND DNA MATURATION PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)	141-172						
PVP23_HCMVA	PROBABLE CAPSID PROTEIN VP23	HERPES SIMPLEX VIRUS (TYPE 1 / STRAIN UGANDA-1102)	46-79	206-238					
PVP23_HSV1U	PROBABLE CAPSID PROTEIN VP23	EQUINE HERPESVIRUS TYPE 1 (STRAIN AB4P) (EHV-1)	18-48						
PVP23_HSVEB	PROBABLE CAPSID PROTEIN VP23	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS) (VZV)	224-253						
PVP23_VZVD	PROBABLE CAPSID PROTEIN VP23	AFRICAN HORSE SICKNESS VIRUS (SEROTYPE 4 / STRAIN VACCINE)	408-441						
PVP3_AHSV4	OUTER CAPSID PROTEIN VP3	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	649-685						
PVP3_BTV10	OUTER CAPSID PROTEIN VP3	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	518-546	649-683					
PVP3_BTV11	OUTER CAPSID PROTEIN VP3	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	381-414	564-595					
PVP3_BTV17	OUTER CAPSID PROTEIN VP3	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE AUSTRALIA)	634-668						
PVP3_BTVIA	OUTER CAPSID PROTEIN VP3	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE SOUTH AFRICA)	634-668						
PVP3_BTVIS	OUTER CAPSID PROTEIN VP3	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1) (EHDV-1)	878-913						
PVP3_EHDV1	OUTER CAPSID PROTEIN VP2	BOVINE ROTAVIRUS (STRAIN RF)	334-367	522-557					
PVP3_ROTBR	RNA-BINDING PROTEIN VP2	BOVINE ROTAVIRUS (STRAIN UK)	334-367	533-558					
PVP3_ROTBU	RNA-BINDING PROTEIN VP2	HUMAN ROTAVIRUS (SEROTYPE 1 / ISOLATE WA)	342-377	532-567					
PVP3_ROTHW	RNA-BINDING PROTEIN VP2	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN)	514-549	589-617	611-641				
PVP3_ROTPC	RNA-BINDING PROTEIN VP2	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	333-368	533-558					
PVP3_ROTSI	RNA-BINDING PROTEIN VP2	VACCINIA VIRUS (STRAIN COPENHAGEN)	278-311						
PVP35_VACCC	IMMUNODOMINANT ENVELOPE PROTEIN P35	VACCINIA VIRUS (STRAIN WR)	278-311						
PVP35_VACCV	IMMUNODOMINANT ENVELOPE PROTEIN P35	VARIOLA VIRUS	279-312						
PVP35_VARV	IMMUNODOMINANT ENVELOPE PROTEIN P35	ORGYIA PSEUDOTSUGATA NUCLEOCAPSID POLYHEDROSIS VIRUS (OPNPV)	107-141						
PVP39_NPVOP	MAJOR CAPSID PROTEIN	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1) (EHDV-1)	383-413	734-770					
PVP3_EHDV1	VP3 CORE PROTEIN	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS	383-413	734-770					
PVP3_EHDVA	VP3 CORE PROTEIN	RICE TUNGRO BACILLIFORM VIRUS (RTBV)	397-430						
PVP3_RTBV	114 KD STRUCTURAL PROTEIN	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	633-668						
PVP3_ROTSI	INNER CORE PROTEIN VP3	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	429-457						
PVP40_EBV	CAPSID PROTEIN P40	HERPESVIRUS SAIMIRI (STRAIN 11)	119-152						
PVP40_HSVSA	CAPSID PROTEIN P40	INFECTIOUS LARYNGOTRACHEITIS VIRUS (STRAIN THORNE V882) (ILTV)	84-119						
PVP40_ILTVT	CAPSID PROTEIN P40	VARICELLA-ZOSTER VIRUS (STRAIN DUMAS) (VZV)	485-516						
PVP40_VZVD	VIRAL TRANSCRIPTION REGULATOR P47	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACNPV)	239-270						
PVP47_NPVAC	MAJOR CORE PROTEIN P4A PRECURSOR	VACCINIA VIRUS (STRAIN COPENHAGEN)	153-191						
PVP4A_VACCC	MAJOR CORE PROTEIN P4A PRECURSOR	VACCINIA VIRUS (STRAIN WR)	153-191						
PVP4A_VACCV	MAJOR CORE PROTEIN P4A PRECURSOR	VARIOLA VIRUS	154-593						
PVP4A_VARV	OUTER CAPSID PROTEIN VP4	ROTAVIRUS (GROUP B / STRAIN IDIR)	91-122	468-499					
PVP4_ROTGI	NONSTRUCTURAL PROTEIN PNS4	WOUND TUMOR VIRUS (WTV)	278-308	624-659					
PVP4_WTV1	OUTER CAPSID PROTEIN VP5	BROADHAVEN VIRUS (BRD)	96-133	295-326					
PVP5_BRD	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE AUSTRALIA)	295-324						
PVP5_BTV1A	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 1 / ISOLATE SOUTH AFRICA)	295-324						
PVP5_BTVIA	OUTER CAPSID PROTEIN VP5	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	295-324						
PVP5_BTVIS	OUTER CAPSID PROTEIN VP5	EPIZOOTIC HEMORRHAGIC DISEASE VIRUS (SEROTYPE 1) (EHDV-1)	296-325						
PVP5_EHDV1	OUTER COAT PROTEIN P5	WOUND TUMOR VIRUS (WTV)	601-710						
PVP5_WTV	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	159-187						
PVP61_BTV10									

PCGENE	FUNCTION	All Viruses (no bacteriophages)	AREA1	AREA1	AREA2	AREA3	AREA4	AREA5	AREA6
PVPBL_BTV10	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	135-183	210-245					
PVP63_BTV10	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	23-41	222-237					
PVP63_MRDV	PROBABLE NONSTRUCTURAL 36 KD PROTEIN	MAIZE ROUGH DWARF VIRUS (NRDV)	285-313						
PVP64_NPVOP	MAJOR ENVELOPE GLYCOPROTEIN PRECURSOR	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS (OPNPV)	281-316						
PVP67_NPVAC	MAJOR ENVELOPE GLYCOPROTEIN PRECURSOR	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACNPV)	198-233						
PVP67_NPVGM	MAJOR ENVELOPE GLYCOPROTEIN	GALLERIA MELLONELLA NUCLEAR POLYHEDROSIS VIRUS (GMNPV)	135-183						
PVP6_BTV11	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	135-183						
PVP6_BTV17	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE SOUTH AFRICA)	159-187						
PVP6_BTV13	VP6 PROTEIN	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	131-159						
PVP6_BTV2A	VP6 PROTEIN	WOUND TUMOR VIRUS (WTV)	180-209						
PVP6_WTV	STRUCTURAL PROTEIN P6	WOUND TUMOR VIRUS (STRAIN NIJ) (WTV)	180-209						
PVP6_WTVNI	STRUCTURAL PROTEIN P6	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACMNPV)	403-442						
PVP79_NPVAC	79 KD PROTEIN	WOUND TUMOR VIRUS (WTV)	454-490						
PVP7_WTV	NONSTRUCTURAL PROTEIN PNS7	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS (OPMNPV)	37-112						
PVP17_NPVOP	CAPSID PROTEIN P17	BLUETONGUE VIRUS (SEROTYPE 10 / ISOLATE USA)	104-139						
PVP1_BTV10	NONSTRUCTURAL PROTEIN P1	BLUETONGUE VIRUS (SEROTYPE 11 / ISOLATE USA)	104-139						
PVP1_BTV11	NONSTRUCTURAL PROTEIN P1	BLUETONGUE VIRUS (SEROTYPE 13 / ISOLATE USA)	104-139						
PVP1_BTV13	NONSTRUCTURAL PROTEIN P1	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE USA)	104-139						
PVP1_BTV17	NONSTRUCTURAL PROTEIN P1	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE AUSTRALIA)	104-139						
PVP1_BTV1A	NONSTRUCTURAL PROTEIN P1	BLUETONGUE VIRUS (SEROTYPE 17 / ISOLATE SOUTH AFRICA)	104-139						
PVP1_BTV1S	NONSTRUCTURAL PROTEIN P1	BLUETONGUE VIRUS (SEROTYPE 2 / ISOLATE USA)	104-139						
PVP1_BTV2A	NONSTRUCTURAL PROTEIN P1	RICE DWARF VIRUS (RDV)	374-412						
PVP2_RDV	OUTER CAPSID PROTEIN P8	WOUND TUMOR VIRUS (WTV)	164-195	379-412					
PVP2_WTV	OUTER CAPSID PROTEIN P8	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACNPV)	145-173						
PVP39_NPVAC	39 KD POLYHEDRAL ENVELOPE PROTEIN	ORGYIA PSEUDOTSUGATA MULTICAPSID POLYHEDROSIS VIRUS (OPMNPV)	122-151						
PVP3E_NPVOP	32 KD POLYHEDRAL ENVELOPE PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ARV/75/87 ISOLATE) (HIV-1)	37-74						
PVP8_HIVA2	VPR PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE HXB) (HIV-1)	41-73						
PVP8_HIVB2E	VPR PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE CAM2) (HIV-1)	41-73						
PVP8_HIVBRA	VPR PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE BRM) (HIV-1)	41-73						
PVP8_HIVBVI	VPR PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE D205.7) (HIV-2)	41-73						
PVP8_HIVD1	VPR PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE NIH-Z) (HIV-2)	41-73						
PVP8_HIVN2	VPR PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ISOLATE ROD) (HIV-1)	41-73						
PVP8_HIVRO	VPR PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 2 (ISOLATE ST) (HIV-2)	41-73						
PVP8_HIVSI1	VPR PROTEIN	CHIMPANZEE IMMUNODEFICIENCY VIRUS (SIVCPZ) (CIV)	40-72						
PVP8_SIVCZ	VPR PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (MM142-83) (ISOLATE) (SIV-MAC)	37-74						
PVP8_SIVM1	VPR PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (RCM ISOLATE) (SIV-MAC)	37-69						
PVP8_SIVMK	VPR PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (MK ISOLATE) (SIV-MAC)	37-69						
PVP8_SIVMN	VPR PROTEIN	SIMIAN IMMUNODEFICIENCY VIRUS (PBJ/BC1) ISOLATE) (SOOTY MANGABEY)	37-69						
PVP8_SIVSP	VPR PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH10 ISOLATE HXB2) ISOLATE)	37-73						
PVPU_HIVB1	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BH8 ISOLATE) (HIV-1)	4-33						
PVPU_HIVB8	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (BRAZIL ISOLATE) (HIV-1)	3-34						
PVPU_HIVBN	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (ELI ISOLATE) (HIV-1)	1-31						
PVPU_HIVH2B	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HXB2 ISOLATE) (HIV-1)	4-33						
PVPU_HIVH2D	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (RCSF ISOLATE) (HIV-1)	3-34						
PVPU_HIVH3L	VPU PROTEIN	HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (PVO ISOLATE) (HIV-1)	3-31						
PVPU_HIVH3V	VPU PROTEIN	SHEEP PULMONARY ADENOMATOSIS VIRUS	116-154						
PVPU_ISRV	VPU PROTEIN	LACTATE DEHYDROGENASE-ELEVATING VIRUS (LDV)	25-55						
PVPX_LDV	VPX PROTEIN	BOVINE IMMUNODEFICIENCY VIRUS (ISOLATE 127) (BIV)	35-71						
PVPY_BIV2	ORF-Y PROTEIN	BOVINE STRIPE MOSAIC VIRUS (BSMV)	290-319	676-705					
PVRNA_BSMV	ALPHA-A PROTEIN	BARLEY STRIPE MOSAIC VIRUS (STRAIN IGY-80-3)	198-230						
PV503_ROTH1	NONSTRUCTURAL PROTEIN NCVP2	HUMAN ROTAVIRUS (GROUP C / STRAIN COWDEN)	88-119	338-382					
PV503_ROTSC	NONSTRUCTURAL PROTEIN NS53	SIMIAN 11 ROTAVIRUS (STRAIN SA11)	113-147						
PV503_ROTSI	NONSTRUCTURAL PROTEIN NCVP2	BOVINE ROTAVIRUS (STRAIN NF)	15-48						
PV506_ROTBR	VP4 PROTEIN	BOVINE ROTAVIRUS (GROUP C / STRAIN SHINTOKU)	64-93	113-140					
PV506_ROTBS	VP4 PROTEIN	BOVINE ROTAVIRUS (STRAIN UK)	55-93						
PV506_ROTBU	VP4 PROTEIN								

PCGENE	P:ACTLIP	All Viruses [no bacteriophages]	VIRUS	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1
FILENAME	PROTEIN	VIRUS		55-93						
PV504_ROTEF	VP6 PROTEIN	EQUINE ROTAVIRUS (STRAIN FI-14)		55-93						
PV504_ROTEK	VP6 PROTEIN	EQUINE ROTAVIRUS (STRAIN H-2)		55-93						
PV504_ROTHI	VP6 PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN 1076)		55-93						
PV504_ROTHC	VP6 PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN BR(STOL)		64-92	313-340					
PV504_ROTH15	VP6 PROTEIN	HUMAN ROTAVIRUS (GROUP C / STRAIN BR(STOL)		55-93						
PV504_ROTHW	VP6 PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 2 / STRAIN S2)		55-93	313-349					
PV504_ROTPC	VP6 PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)		64-92						
PV504_ROTPG	VP6 PROTEIN	PORCINE ROTAVIRUS (GROUP C / STRAIN COWDEN		55-93	313-349					
PV504_ROTSI	VP6 PROTEIN	PORCINE ROTAVIRUS (STRAIN GOTTFRIED)		55-93	313-349					
PV504_ROTSI	NONSTRUCTURAL PROTEIN NCVP4	SIMIAN 11 ROTAVIRUS (STRAIN SA11)		234-302						
PV508_ROTSI	GLYCOPROTEIN VP7	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN ST. THOMAS 3)		131-159						
PV509_ROTHT	GLYCOPROTEIN-VP7	HUMAN ROTAVIRUS (SEROTYPE 4 / STRAIN BEN-144)		131-159						
PV509_ROTPB	GLYCOPROTEIN VP7	PORCINE ROTAVIRUS (SEROTYPE 4 / STRAIN BEN-144)		131-159						
PV510_ROTBN	NONSTRUCTURAL GLYCOPROTEIN NCVP3	BOVINE ROTAVIRUS (STRAIN NCDV)		52-89						
PV510_ROTBU	NONSTRUCTURAL GLYCOPROTEIN NCVP3	BOVINE ROTAVIRUS (STRAIN UK)		52-89						
PV510_ROTH3	NONSTRUCTURAL GLYCOPROTEIN NCVP3	HUMAN ROTAVIRUS (STRAIN A28)		52-89						
PV510_ROTH7	NONSTRUCTURAL GLYCOPROTEIN NCVP3	HUMAN ROTAVIRUS (STRAIN A64 / CLONE 2)		52-89						
PV510_ROTH8	NONSTRUCTURAL GLYCOPROTEIN NCVP3	HUMAN ROTAVIRUS (STRAIN A64 / CLONE 6		52-89						
PV510_ROTHW	NONSTRUCTURAL GLYCOPROTEIN NCVP3	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)		52-89						
PV510_ROTSI	NONSTRUCTURAL GLYCOPROTEIN NCVP3	SIMIAN 11 ROTAVIRUS (STRAIN SA11)		52-89						
PV511_REOVI	MINOR OUTER CAPSID PROTEIN	HUMAN ROTAVIRUS (SEROTYPE 1 / STRAIN WA)		99-130						
PV511_REOVL	SIGMA 1 PROTEIN PRECURSOR	REOVIRUS (TYPE 3 / STRAIN DJ/JONES)		146-184						
PV511_REOVL	SIGMA 1 PROTEIN PRECURSOR	REOVIRUS (TYPE 1 / STRAIN LANG)		110-147						
PVT1_SFVXA	PROTEIN T1 PRECURSOR	SHOPE FIBROMA VIRUS (STRAIN KASZA) (SFV)		147-182						
PVT2_MYXVL	TUMOR NECROSIS FACTOR SOLUBLE RECEPTOR PRECUR	MYXOMA VIRUS (STRAIN LAUSANNE)		261-290						
PVT2_SFVXA	TUMOR NECROSIS FACTOR SOLUBLE RECEPTOR PRECUR	SHOPE FIBROMA VIRUS (STRAIN KASZA) (SFV)		211-249						
PVT3A_CAPVI	PROTEIN T3A	CAPRIPOXVIRUS (STRAIN NS-1)		116-150						
PVT3R_EBV	PROBABLE DNA PACKAGING PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)		166-199	305-343					
PVT3R_HCMVA	PROBABLE DNA PACKAGING PROTEIN	HUMAN CYTOMEGALOVIRUS (STRAIN AD169)		176-209						
PVT3R_HSV11	PROBABLE DNA PACKAGING PROTEIN	ICTALURID HERPESVIRUS 1 (CHANNEL CATFISH VIRUS) (CCV)		756-788						
PVX_SENDS	X PROTEIN	SENDAI VIRUS (STRAIN 6/4)		51-83						
PY104_ADE07	HYPOTHETICAL 10 1 KD EARLY PROTEIN	HUMAN ADENOVIRUS TYPE 7		51-83						
PY105_MSV5	HYPOTHETICAL 10.9 KD PROTEIN	MAIZE STREAK VIRUS (SOUTH-AFRICAN ISOLATE) (MSV)		24-54						
PY105_WDV	HYPOTHETICAL 10 KD PROTEIN	WHEAT DWARF VIRUS (WDV)		32-59						
PY110_SSV1	HYPOTHETICAL 11.9 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1		29-64						
PY11K_PASV	HYPOTHETICAL 11.9 KD PROTEIN (ORF VI)	PANICUM STREAK VIRUS		29-61						
PY11K_ROTSI	HYPOTHETICAL 11.1 KD PROTEIN IN SEGMENT 11	SIMIAN 11 ROTAVIRUS (STRAIN SA11)		53-83						
PY11K_TYDVA	HYPOTHETICAL 11.1 KD PROTEIN	TOBACCO YELLOW DWARF VIRUS (STRAIN AUSTRALIA) (TYDV)		28-62						
PY14K_NPVAC	HYPOTHETICAL 13.8 KD PROTEIN IN 39 KD PROTEIN 5'REG	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACMNPV)		65-101						
PY14K_SSV1	HYPOTHETICAL 13.8 KD PROTEIN (ORF E-146)	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1		106-112.						
PY18K_SSV1	HYPOTHETICAL 20.4 KD PROTEIN (ORF E-178)	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1		139-167.						
PY20K_SSV1	HYPOTHETICAL 20.4 KD PROTEIN	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1		123-155.						
PY21K_MSVN	HYPOTHETICAL 21.7 KD PROTEIN	MAIZE STREAK VIRUS (NIGERIAN ISOLATE) (MSV)		96-137						
PY2_SOCMV	HYPOTHETICAL PROTEIN 2 (ORF II)	SOYBEAN CHLOROTIC MOTTLE VIRUS		29-61						
PY31K_NPVAC	HYPOTHETICAL 31.7 KD PROTEIN (ORF F)	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACMNPV)		250-282						
PY31K_SSV1	HYPOTHETICAL 31.7 KD PROTEIN (ORF C-792)	SULFOLOBUS VIRUS-LIKE PARTICLE SSV1		274-312	343-380					
PY31J_FOWPM	HYPOTHETICAL BAMHI-O/F) PROTEIN (FRAGMENT)	FOWLPOX VIRUS (ISOLATE HP-438/MUNICH)		114-150						
PYDH1_HSV2C	HYPOTHETICAL 28.7 KD PROTEIN IN DIFF 3'REGION (ORF	HERPESVIRUS BABHRI (SUBGROUP C / STRAIN 168)		206-244						
PYDH3_HSV2C	HYPOTHETICAL 9.1 KD PROTEIN IN DIFF 3'REGION (ORF	HERPESVIRUS BAHHRI (SUBGROUP C / STRAIN 168)		68-97.						
PYEC4_EBV	HYPOTHETICAL EC-RF4 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)		24-60						
PYI01_CVMM	HYPOTHETICAL PROTEIN IORF 1	BOVINE CORONAVIRUS		84-122						
PYI0R_CVBM	HYPOTHETICAL PROTEIN IN NUCLEOCAPSID ORF (ORF	BOVINE CORONAVIRUS (STRAIN F15)		41-93	135-165					
PYI0R_CVMM	HYPOTHETICAL PROTEIN IN NUCLEOCAPSID ORF (ORF	BOVINE CORONAVIRUS (STRAIN MEBUS)		41-74	137-165.					
PYI0R_CVTKE	HYPOTHETICAL PROTEIN IN NUCLEOCAPSID ORF (ORF	TURKEY ENTERIC CORONAVIRUS (TCV)		41-74	137-165					
PYI0U3_EBV	HYPOTHETICAL BKUF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)		67-100						
PYI0U3_EBV	BKUF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)		230-284						
PYI0R1_COVMV	HYPOTHETICAL 33 KD PROTEIN (ORF 1)	CORONELINA YELLOW MOTTLE VIRUS (COYMV)		193-230	166-198					
PYI0R2_COVMV	HYPOTHETICAL 13 KD PROTEIN (ORF 2)	CORONELINA YELLOW MOTTLE VIRUS (COYMV)		123-56						
PYI0U_PVXXC	HYPOTHETICAL 12 KD PROTEIN (ORF 3) (FRAGMENT)	POTATO VIRUS X (STRAIN XC) (PVX)		7-39						

PCGENE FILE NAME	PUCTLZIP PROTEIN	All Viruses (no bacteriophage): VIRUS	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1	AREA 1
PYOR3_WCMVM	HYPOTHETICAL 13 KD PROTEIN (ORF 3)	WHITE CLOVER MOSAIC VIRUS (STRAIN M) (WCMV)	83-94						
PYOR3_WCMVD	HYPOTHETICAL 13 KD PROTEIN (ORF 3)	WHITE CLOVER MOSAIC VIRUS (STRAIN D) (WCMV)	64-95						
PYOR5_ADEGT	HYPOTHETICAL 33.5 KD PROTEIN (ORF 5)	AVIAN ADENOVIRUS GAL1	233-318						
PYOR0_TTV1	HYPOTHETICAL 11 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1) (TTV1)	3-34						
PYOR0A_TTV1	HYPOTHETICAL 24.6 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1) (TTV1)	233-283						
PYOR0F_TTV1	HYPOTHETICAL 20.7 KD PROTEIN	THERMOPROTEUS TENAX VIRUS 1 (STRAIN KRA1) (TTV1)	91-134						
PYP24_RTBV	HYPOTHETICAL P24 PROTEIN (ORF 1	RICE TUNGRO BACILLIFORM VIRUS (RTBV)	104-133	159-191					
PYP24_RTBVP	HYPOTHETICAL P24 PROTEIN (ORF 1)	RICE TUNGRO BACILLIFORM VIRUS (ISOLATE PHILIPPINES) (RTBV)	104-133	159-191					
PYP47_NPVAC	HYPOTHETICAL 43.5 KD PROTEIN IN PAT 3'REGION	AUTOGRAPHA CALIFORNICA NUCLEAR POLYHEDROSIS VIRUS (ACMNPV)	23-31						
PYNF5_HSV60	HYPOTHETICAL PROTEIN IN 5	HERPES SIMPLEX VIRUS (TYPE 6 / STRAIN GS)	180-216						
PYB3_EBV	HYPOTHETICAL BERF3 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	13-42						
PYB1_EBV	HYPOTHETICAL BXLF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	92-120						
PYTR1_EBV	HYPOTHETICAL BTRF1 PROTEIN	EPSTEIN-BARR VIRUS (STRAIN B95-8) (HUMAN HERPESVIRUS 4)	106-136						
PYVAE_VACCC	HYPOTHETICAL 18.2 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	21-53						
PYVAL_VACCV	HYPOTHETICAL 99 KD PROTEIN	VACCINIA VIRUS (STRAIN WR), AND VACCINIA VIRUS (STRAIN COPENHAGE	31-49						
PYVBC_VACCC	HYPOTHETICAL 108 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	22-53						
PYVDG_VACCV	HYPOTHETICAL 104 KD PROTEIN	VACCINIA VIRUS (STRAIN WR), AND VACCINIA VIRUS (STRAIN COPENHAGE	31-44						
PYVEF_VACCC	HYPOTHETICAL 13.9 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	8-42						
PYVFC_VACCC	HYPOTHETICAL 11.6 KD PROTEIN	VACCINIA VIRUS (STRAIN COPENHAGEN)	7-35						
P2NFP_LYCVA	ZINC FINGER PROTEIN	LYMPHOCYTIC CHORIOMENINGITIS VIRUS (STRAIN ARMSTRONG)	29-57						
P2NFP_LYCVP	ZINC FINGER PROTEIN (FRAGMENT)	LYMPHOCYTIC CHORIOMENINGITIS VIRUS (STRAIN PASTEUR)	8-37						

TABLE XV
RESPIRATORY SYNCYTIAL VIRUS DP107 F2 REGION ANALOG
CARBOXY TRUNCATIONS

X-YTS-Z
X-YTSV-Z
X-YTSVI-Z
X-YTSVIT-Z
X-YTSVITI-Z
X-YTSVITIE-Z
X-YTSVITIEL-Z
X-YTSVITIELS-Z
X-YTSVITIELSN-Z
X-YTSVITIELSNI-Z
X-YTSVITIELSNIK-Z
X-YTSVITIELSNIKE-Z
X-YTSVITIELSNIKEN-Z
X-YTSVITIELSNIKENK-Z
X-YTSVITIELSNIKENKC-Z
X-YTSVITIELSNIKENKCN-Z
X-YTSVITIELSNIKENKCNG-Z
X-YTSVITIELSNIKENKCNGT-Z
X-YTSVITIELSNIKENKCNGTD-Z
X-YTSVITIELSNIKENKCNGTDA-Z
X-YTSVITIELSNIKENKCNGTDAK-Z
X-YTSVITIELSNIKENKCNGTDAKV-Z
X-YTSVITIELSNIKENKCNGTDAKVK-Z
X-YTSVITIELSNIKENKCNGTDAKVKL-Z
X-YTSVITIELSNIKENKCNGTDAKVKLI-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIK-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQ-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQE-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQEL-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQELD-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQELDK-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQELDKY-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQELDKYK-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQELDKYKN-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQELDKYKNA-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQELDKYKNAV-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQELDKYKNAVT-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQELDKYKNAVTE-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQELDKYKNAVTEL-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQELDKYKNAVTELQ-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQELDKYKNAVTELQL-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQELDKYKNAVTELQLL-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQELDKYKNAVTELQLLM-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQELDKYKNAVTELQLLMQ-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQELDKYKNAVTELQLLMQS-Z
X-YTSVITIELSNIKENKCNGTDAKVKLIKQELDKYKNAVTELQLLMQST-Z

The one letter amino acid code is used.

Additionally,

"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (FMOC) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

TABLE XVI
RESPIRATORY SYNCYTIAL VIRUS F2 DP178/DP107 REGION ANALOG
AMINO TRUNCATIONS

X-QST-Z
X-MQST-Z
X-LMQST-Z
X-LLMQST-Z
X-QLLMQST-Z
X-LQLLMQST-Z
X-ELQLLMQST-Z
X-TELQLLMQST-Z
X-VTELQLLMQST-Z
X-AVTELQLLMQST-Z
X-NAVTELQLLMQST-Z
X-KNAVTELQLLMQST-Z
X-YKNAVTELQLLMQST-Z
X-KYKNAVTELQLLMQST-Z
X-DKYKNAVTELQLLMQST-Z
X-LDKYKNAVTELQLLMQST-Z
X-ELDKYKNAVTELQLLMQST-Z
X-QELDKYKNAVTELQLLMQST-Z
X-KQELDKYKNAVTELQLLMQST-Z
X-IKQELDKYKNAVTELQLLMQST-Z
X-LIKQELDKYKNAVTELQLLMQST-Z
X-KLIKQELDKYKNAVTELQLLMQST-Z
X-VKLIKQELDKYKNAVTELQLLMQST-Z
X-KVKLIKQELDKYKNAVTELQLLMQST-Z
X-AKVKLIKQELDKYKNAVTELQLLMQST-Z
X-DAKVKLIKQELDKYKNAVTELQLLMQST-Z
X-TDAKVKLIKQELDKYKNAVTELQLLMQST-Z
X-GTDAKVKLIKQELDKYKNAVTELQLLMQST-Z
X-NGTDAKVKLIKQELDKYKNAVTELQLLMQST-Z
X-CNGTDAKVKLIKQELDKYKNAVTELQLLMQST-Z
X-KCNGTDAKVKLIKQELDKYKNAVTELQLLMQST-Z
X-NKCNGTDAKVKLIKQELDKYKNAVTELQLLMQST-Z
X-KENKCNGTDAKVKLIKQELDKYKNAVTELQLLMQST-Z
X-IKENKCNGTDAKVKLIKQELDKYKNAVTELQLLMQST-Z
X-NIKENKCNGTDAKVKLIKQELDKYKNAVTELQLLMQST-Z
X-SNIKENKCNGTDAKVKLIKQELDKYKNAVTELQLLMQST-Z
X-LSNIKENKCNGTDAKVKLIKQELDKYKNAVTELQLLMQST-Z
X-ELSNIKENKCNGTDAKVKLIKQELDKYKNAVTELQLLMQST-Z
X-IELSNIKENKCNGTDAKVKLIKQELDKYKNAVTELQLLMQST-Z
X-TIELSNIKENKCNGTDAKVKLIKQELDKYKNAVTELQLLMQST-Z
X-ITIELSNIKENKCNGTDAKVKLIKQELDKYKNAVTELQLLMQST-Z
X-VITIELSNIKENKCNGTDAKVKLIKQELDKYKNAVTELQLLMQST-Z
X-SVITIELSNIKENKCNGTDAKVKLIKQELDKYKNAVTELQLLMQST-Z
X-TSVITIELSNIKENKCNGTDAKVKLIKQELDKYKNAVTELQLLMQST-Z

The one letter amino acid code is used.

Additionally,

"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (FMOC) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

TABLE XVII
RESPIRATORY SYNCYTIAL VIRUS F1 DP178 REGION ANALOG
CARBOXY TRUNCATIONS

X-FYD-Z
X-FYDP-Z
X-FYDPL-Z
X-FYDPLV-Z
X-FYDPLVF-Z
X-FYDPLVFP-Z
X-FYDPLVFPS-Z
X-FYDPLVFPSD-Z
X-FYDPLVFPSDE-Z
X-FYDPLVFPSDEF-Z
X-FYDPLVFPSDEFD-Z
X-FYDPLVFPSDEFDA-Z
X-FYDPLVFPSDEFDAS-Z
X-FYDPLVFPSDEFDASI-Z
X-FYDPLVFPSDEFDASIS-Z
X-FYDPLVFPSDEFDASISQ-Z
X-FYDPLVFPSDEFDASISQV-Z
X-FYDPLVFPSDEFDASISQVN-Z
X-FYDPLVFPSDEFDASISQVNE-Z
X-FYDPLVFPSDEFDASISQVNEK-Z
X-FYDPLVFPSDEFDASISQVNEKI-Z
X-FYDPLVFPSDEFDASISQVNEKIN-Z
X-FYDPLVFPSDEFDASISQVNEKINQ-Z
X-FYDPLVFPSDEFDASISQVNEKINQS-Z
X-FYDPLVFPSDEFDASISQVNEKINQSL-Z
X-FYDPLVFPSDEFDASISQVNEKINQSLA-Z
X-FYDPLVFPSDEFDASISQVNEKINQSLAF-Z
X-FYDPLVFPSDEFDASISQVNEKINQSLAFI-Z
X-FYDPLVFPSDEFDASISQVNEKINQSLAFIR-Z
X-FYDPLVFPSDEFDASISQVNEKINQSLAFIRK-Z
X-FYDPLVFPSDEFDASISQVNEKINQSLAFIRKS-Z
X-FYDPLVFPSDEFDASISQVNEKINQSLAFIRKSD-Z
X-FYDPLVFPSDEFDASISQVNEKINQSLAFIRKSDE-Z
X-FYDPLVFPSDEFDASISQVNEKINQSLAFIRKSDEL-Z
X-FYDPLVFPSDEFDASISQVNEKINQSLAFIRKSDELL-Z

The one letter amino acid code is used.

Additionally,
"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (FMOC) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier

group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

TABLE XVIII
RESPIRATORY SYNCYTIAL VIRUS F1 DP178 REGION ANALOG
AMINO TRUNCATIONS

X-DELL-Z
X-SDELL-Z
X-KSDELL-Z
X-RKSDELL-Z
X-IRKSDELL-Z
X-FIRKSDELL-Z
X-AFIRKSDELL-Z
X-LAFIRKSDELL-Z
X-SLAFIRKSDELL-Z
X-QSLAFIRKSDELL-Z
X-NQSLAFIRKSDELL-Z
X-INQSLAFIRKSDELL-Z
X-KINQSLAFIRKSDELL-Z
X-EKINQSLAFIRKSDELL-Z
X-NEKINQSLAFIRKSDELL-Z
X-VNEKINQSLAFIRKSDELL-Z
X-QVNEKINQSLAFIRKSDELL-Z
X-SQVNEKINQSLAFIRKSDELL-Z
X-ISQVNEKINQSLAFIRKSDELL-Z
X-SISQVNEKINQSLAFIRKSDELL-Z
X-ASISQVNEKINQSLAFIRKSDELL-Z
X-DASISQVNEKINQSLAFIRKSDELL-Z
X-FDASISQVNEKINQSLAFIRKSDELL-Z
X-EFDASISQVNEKINQSLAFIRKSDELL-Z
X-DEFDASISQVNEKINQSLAFIRKSDELL-Z
X-SDEFDASISQVNEKINQSLAFIRKSDELL-Z
X-PSDEFDASISQVNEKINQSLAFIRKSDELL-Z
X-FPSDEFDASISQVNEKINQSLAFIRKSDELL-Z
X-VFPSDEFDASISQVNEKINQSLAFIRKSDELL-Z
X-LVFPSDEFDASISQVNEKINQSLAFIRKSDELL-Z
X-PLVFPSDEFDASISQVNEKINQSLAFIRKSDELL-Z
X-DPLVFPSDEFDASISQVNEKINQSLAFIRKSDELL-Z
X-YDPLVFPSDEFDASISQVNEKINQSLAFIRKSDELL-Z

The one letter amino acid code is used.

Additionally,
"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (FMOC) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

TABLE XIX
HUMAN PARAINFLUENZA VIRUS 3 F1 REGION DP178 ANALOG
CARBOXY TRUNCATIONS

X-ITL-Z
X-ITLN-Z
X-ITLNN-Z
X-ITLNNS-Z
X-ITLNNSV-Z
X-ITLNNSVA-Z
X-ITLNNSVAL-Z
X-ITLNNSVALD-Z
X-ITLNNSVALDP-Z
X-ITLNNSVALDPI-Z
X-ITLNNSVALDPID-Z
X-ITLNNSVALDPIDI-Z
X-ITLNNSVALDPIDIS-Z
X-ITLNNSVALDPIDISI-Z
X-ITLNNSVALDPIDISIE-Z
X-ITLNNSVALDPIDISIEL-Z
X-ITLNNSVALDPIDISIELN-Z
X-ITLNNSVALDPIDISIELNK-Z
X-ITLNNSVALDPIDISIELNKA-Z
X-ITLNNSVALDPIDISIELNKAK-Z
X-ITLNNSVALDPIDISIELNKAKS-Z
X-ITLNNSVALDPIDISIELNKAKSD-Z
X-ITLNNSVALDPIDISIELNKAKSDL-Z
X-ITLNNSVALDPIDISIELNKAKSDLE-Z
X-ITLNNSVALDPIDISIELNKAKSDLEE-Z
X-ITLNNSVALDPIDISIELNKAKSDLEES-Z
X-ITLNNSVALDPIDISIELNKAKSDLEESK-Z
X-ITLNNSVALDPIDISIELNKAKSDLEESKE-Z
X-ITLNNSVALDPIDISIELNKAKSDLEESKEW-Z
X-ITLNNSVALDPIDISIELNKAKSDLEESKEWI-Z
X-ITLNNSVALDPIDISIELNKAKSDLEESKEWIR-Z
X-ITLNNSVALDPIDISIELNKAKSDLEESKEWIRR-Z
X-ITLNNSVALDPIDISIELNKAKSDLEESKEWIRRS-Z

The one letter amino acid code is used.

Additionally,
"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (FMOC) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

TABLE XX
HUMAN PARAINFLUENZA VIRUS 3 F1 REGION DP178 ANALOG
AMINO TRUNCATIONS

X-RRS-Z
X-IRRS-Z
X-WIRRS-Z
X-EWIRRS-Z
X-KEWIRRS-Z
X-SKEWIRRS-Z
X-ESKEWIRRS-Z
X-EESKEWIRRS-Z
X-LEESKEWIRRS-Z
X-DLEESKEWIRRS-Z
X-SDLEESKEWIRRS-Z
X-KSDLEESKEWIRRS-Z
X-AKSDLEESKEWIRRS-Z
X-KAKSDLEESKEWIRRS-Z
X-NKAKSDLEESKEWIRRS-Z
X-LNKAKSDLEESKEWIRRS-Z
X-ELNKAKSDLEESKEWIRRS-Z
X-IELNKAKSDLEESKEWIRRS-Z
X-SIELNKAKSDLEESKEWIRRS-Z
X-ISIELNKAKSDLEESKEWIRRS-Z
X-DISIELNKAKSDLEESKEWIRRS-Z
X-IDISIELNKAKSDLEESKEWIRRS-Z
X-PIDISIELNKAKSDLEESKEWIRRS-Z
X-DPIDISIELNKAKSDLEESKEWIRRS-Z
X-LDPIDISIELNKAKSDLEESKEWIRRS-Z
X-ALDPIDISIELNKAKSDLEESKEWIRRS-Z
X-VALDPIDISIELNKAKSDLEESKEWIRRS-Z
X-SVALDPIDISIELNKAKSDLEESKEWIRRS-Z
X-NSVALDPIDISIELNKAKSDLEESKEWIRRS-Z
X-NNSVALDPIDISIELNKAKSDLEESKEWIRRS-Z
X-LNNSVALDPIDISIELNKAKSDLEESKEWIRRS-Z
X-TLNNSVALDPIDISIELNKAKSDLEESKEWIRRS-Z

The one letter amino acid code is used.

Additionally,
"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (FMOC) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

TABLE XXI
HUMAN PARAINFLUENZA VIRUS 3 F1 REGION DP107 ANALOG
CARBOXY TRUNCATIONS

X-ALG-Z
X-ALGV-Z
X-ALGVA-Z
X-ALGVAT-Z
X-ALGVATS-Z
X-ALGVATSA-Z
X-ALGVATSAQ-Z
X-ALGVATSAQI-Z
X-ALGVATSAQIT-Z
X-ALGVATSAQITA-Z
X-ALGVATSAQITAA-Z
X-ALGVATSAQITAAV-Z
X-ALGVATSAQITAAVA-Z
X-ALGVATSAQITAAVAL-Z
X-ALGVATSAQITAAVALV-Z
X-ALGVATSAQITAAVALVE-Z
X-ALGVATSAQITAAVALVEA-Z
X-ALGVATSAQITAAVALVEAK-Z
X-ALGVATSAQITAAVALVEAKQ-Z
X-ALGVATSAQITAAVALVEAKQA-Z
X-ALGVATSAQITAAVALVEAKQAR-Z
X-ALGVATSAQITAAVALVEAKQARS-Z
X-ALGVATSAQITAAVALVEAKQARSD-Z
X-ALGVATSAQITAAVALVEAKQARSDI-Z
X-ALGVATSAQITAAVALVEAKQARSDIE-Z
X-ALGVATSAQITAAVALVEAKQARSDIEK-Z
X-ALGVATSAQITAAVALVEAKQARSDIEKL-Z
X-ALGVATSAQITAAVALVEAKQARSDIEKLK-Z
X-ALGVATSAQITAAVALVEAKQARSDIEKLKE-Z
X-ALGVATSAQITAAVALVEAKQARSDIEKLKEA-Z
X-ALGVATSAQITAAVALVEAKQARSDIEKLKEAI-Z
X-ALGVATSAQITAAVALVEAKQARSDIEKLKEAIR-Z

The one letter amino acid code is used.

Additionally,
"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (FMOC) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

TABLE XXII
HUMAN PARAINFLUENZA VIRUS 3 F1 REGION DP107 ANALOG
AMINO TRUNCATIONS

X-IRD-Z
X-AIRD-Z
X-EAIRD-Z
X-KEAIRD-Z
X-LKEAIRD-Z
X-KLKEAIRD-Z
X-EKLKEAIRD-Z
X-IEKLKEAIRD-Z
X-DIEKLKEAIRD-Z
X-SDIEKLKEAIRD-Z
X-RSDIEKLKEAIRD-Z
X-ARSDIEKLKEAIRD-Z
X-QARSDIEKLKEAIRD-Z
X-KQARSDIEKLKEAIRD-Z
X-AKQARSDIEKLKEAIRD-Z
X-EAKQARSDIEKLKEAIRD-Z
X-VEAKQARSDIEKLKEAIRD-Z
X-LVEAKQARSDIEKLKEAIRD-Z
X-ALVEAKQARSDIEKLKEAIRD-Z
X-VALVEAKQARSDIEKLKEAIRD-Z
X-AVALVEAKQARSDIEKLKEAIRD-Z
X-AAVALVEAKQARSDIEKLKEAIRD-Z
X-TAAVALVEAKQARSDIEKLKEAIRD-Z
X-ITAAVALVEAKQARSDIEKLKEAIRD-Z
X-QITAAVALVEAKQARSDIEKLKEAIRD-Z
X-AQITAAVALVEAKQARSDIEKLKEAIRD-Z
X-SAQITAAVALVEAKQARSDIEKLKEAIRD-Z
X-TSAQITAAVALVEAKQARSDIEKLKEAIRD-Z
X-ATSAQITAAVALVEAKQARSDIEKLKEAIRD-Z
X-VATSAQITAAVALVEAKQARSDIEKLKEAIRD-Z
X-GVATSAQITAAVALVEAKQARSDIEKLKEAIRD-Z
X-LGVATSAQITAAVALVEAKQARSDIEKLKEAIRD-Z

The one letter amino acid code is used.

Additionally,
"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (FMOC) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

TABLE XXIII
REPRESENTATIVE DP107/DP178 ANALOG ANTIVIRAL PEPTIDES

Anti-Respiratory syncytial virus peptides

X-TSVITIELSNIKENKCNGTDAKVKLIKQELDKYKN-Z
X-SVITIELSNIKENKCNGTDAKVKLIKQELDKYKNA-Z
X-VITIELSNIKENKCNGTDAKVKLIKQELDKYKNAV-Z
X-VAVSKVLHLEGEVNKIALLSTNKAVVSLSNGVS-Z
X-AVSKVLHLEGEVNKIALLSTNKAVVSLSNGVSV-Z
X-VSKVLHLEGEVNKIALLSTNKAVVSLSNGVSVL-Z
X-SKVLHLEGEVNKIALLSTNKAVVSLSNGVSVLT-Z
X-KVLHLEGEVNKIALLSTNKAVVSLSNGVSVLTS-Z
X-LEGEVNKIALLSTNKAVVSLSNGVSVLTSKVLD-Z
X-GEVNKIALLSTNKAVVSLSNGVSVLTSKVLDLK-Z
X-EVNKIALLSTNKAVVSLSNGVSVLTSKVLDLKN-Z
X-VNKIALLSTNKAVVSLSNGVSVLTSKVLDLKNY-Z
X-NKIALLSTNKAVVSLSNGVSVLTSKVLDLKNYI-Z
X-KIALLSTNKAVVSLSNGVSVLTSKVLDLKNYID-Z
X-IALLSTNKAVVSLSNGVSVLTSKVLDLKNYIDK-Z
X-ALLSTNKAVVSLSNGVSVLTSKVLDLKNYIDKQ-Z
X-VAVSKVLHLEGEVNKIALLSTNKAVVSLSNGVS-Z
X-AVSKVLHLEGEVNKIALLSTNKAVVSLSNGVSV-Z
X-VSKVLHLEGEVNKIALLSTNKAVVSLSNGVSVL-Z
X-SKVLHLEGEVNKIALLSTNKAVVSLSNGVSVLT-Z
X-KVLHLEGEVNKIALLSTNKAVVSLSNGVSVLTS-Z
X-LEGEVNKIALLSTNKAVVSLSNGVSVLTSKVLD-Z
X-GEVNKIALLSTNKAVVSLSNGVSVLTSKVLDLK-Z
X-EVNKIALLSTNKAVVSLSNGVSVLTSKVLDLKN-Z
X-VNKIALLSTNKAVVSLSNGVSVLTSKVLDLKNY-Z
X-NKIALLSTNKAVVSLSNGVSVLTSKVLDLKNYI-Z
X-KIALLSTNKAVVSLSNGVSVLTSKVLDLKNYID-Z
X-IALLSTNKAVVSLSNGVSVLTSKVLDLKNYIDK-Z
X-ALLSTNKAVVSLSNGVSVLTSKVLDLKNYIDKQ-Z

Anti-human parainfluenza virus 3 peptides

X-TLNNSVALDPIDISIELNKAKSDLEESKEWIRRSN-Z
X-LNNSVALDPIDISIELNKAKSDLEESKEWIRRSNQ-Z
X-NNSVALDPIDISIELNKAKSDLEESKEWIRRSNQK-Z
X-NSVALDPIDISIELNKAKSDLEESKEWIRRSNQKL-Z
X-SVALDPIDISIELNKAKSDLEESKEWIRRSNQKLD-Z
X-VALDPIDISIELNKAKSDLEESKEWIRRSNQKLDS-Z
X-ALDPIDISIELNKAKSDLEESKEWIRRSNQKLDSI-Z
X-LDPIDISIELNKAKSDLEESKEWIRRSNQKLDSIG-Z
X-DPIDISIELNKAKSDLEESKEWIRRSNQKLDSIGN-Z
X-PIDISIELNKAKSDLEESKEWIRRSNQKLDSIGNW-Z
X-IDISIELNKAKSDLEESKEWIRRSNQKLDSIGNWH-Z
X-DISIELNKAKSDLEESKEWIRRSNQKLDSIGNWHQ-Z
X-ISIELNKAKSDLEESKEWIRRSNQKLDSIGNWHQS-Z
X-SIELNKAKSDLEESKEWIRRSNQKLDSIGNWHQSS-Z
X-IELNKAKSDLEESKEWIRRSNQKLDSIGNWHQSST-Z
X-ELNKAKSDLEESKEWIRRSNQKLDSIGNWHQSSTT-Z
X-TAAVALVEAKQARSDIEKLKEAIRDTNKAVQSVQS-Z

X-AVALVEAKQARSDIEKLKEAIRDTNKAVQSVQSSI-Z
X-LVEAKQARSDIEKLKEAIRDTNKAVQSVQSSIGNL-Z
X-VEAKQARSDIEKLKEAIRDTNKAVQSVQSSIGNLI-Z
X-EAKQARSDIEKLKEAIRDTNKAVQSVQSSIGNLIV-Z
X-AKQARSDIEKLKEAIRDTNKAVQSVQSSIGNLIVA-Z
X-KQARSDIEKLKEAIRDTNKAVQSVQSSIGNLIVAI-Z
X-QARSDIEKLKEAIRDTNKAVQSVQSSIGNLIVAIK-Z
X-ARSDIEKLKEAIRDTNKAVQSVQSSIGNLIVAIKS-Z
X-RSDIEKLKEAIRDTNKAVQSVQSSIGNLIVAIKSV-Z
X-SDIEKLKEAIRDTNKAVQSVQSSIGNLIVAIKSVQ-Z
X-KLKEAIRDTNKAVQSVQSSIGNLIVAIKSVQDYVN-Z
X-LKEAIRDTNKAVQSVQSSIGNLIVAIKSVQDYVNK-Z
X-AIRDTNKAVQSVQSSIGNLIVAIKSVQDYVNKEIV-Z

Anti-simian immunodeficiency virus peptides

X-WQEWERKVDFLEENITALLEEAQIQQEKNMYELQK-Z
X-QEWERKVDFLEENITALLEEAQIQQEKNMYELQKL-Z
X-EWERKVDFLEENITALLEEAQIQQEKNMYELQKLN-Z
X-WERKVDFLEENITALLEEAQIQQEKNMYELQKLNS-Z
X-ERKVDFLEENITALLEEAQIQQEKNMYELQKLNSW-Z
X-RKVDFLEENITALLEEAQIQQEKNMYELQKLNSWD-Z
X-KVDFLEENITALLEEAQIQQEKNMYELQKLNSWDV-Z
X-VDFLEENITALLEEAQIQQEKNMYELQKLNSWDVF-Z
X-DFLEENITALLEEAQIQQEKNMYELQKLNSWDVFG-Z
X-FLEENITALLEEAQIQQEKNMYELQKLNSWDVFGN-Z

Anti-measles virus peptides

X-LHRIDLGPPISLERLDVGTNLGNAIAKLEAKELL-Z
X-HRIDLGPPISLERLDVGTNLGNAIAKLEAKELLE-Z
X-RIDLGPPISLERLDVGTNLGNAIAKLEAKELLES-Z
X-IDLGPPISLERLDVGTNLGNAIAKLEAKELLESS-Z
X-DLGPPISLERLDVGTNLGNAIAKLEAKELLESSD-Z
X-LGPPISLERLDVGTNLGNAIAKLEAKELLESSDQ-Z
X-GPPISLERLDVGTNLGNAIAKLEAKELLESSDQI-Z
X-PPISLERLDVGTNLGNAIAKLEAKELLESSDQIL-Z
X-PISLERLDVGTNLGNAIAKLEAKELLESSDQILR-Z
X-SLERLDVGTNLGNAIAKLEAKELLESSDQILRSM-Z
X-LERLDVGTNLGNAIAKLEAKELLESSDQILRSMK-Z

The one letter amino acid code is used.

Additionally,
"X" may represent an amino group, a hydrophobic group, including but not limited to carbobenzoxyl, dansyl, or T-butyloxycarbonyl; an acetyl group; a 9-fluorenylmethoxy-carbonyl (FMOC) group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

"Z" may represent a carboxyl group; an amido group; a T-butyloxycarbonyl group; a macromolecular carrier group including but not limited to lipid-fatty acid conjugates, polyethylene glycol, or carbohydrates.

5.4. SYNTHESIS OF PEPTIDES

The peptides of the invention may be synthesized or prepared by techniques well known in the art. See, for example, Creighton, 1983, Proteins: Structures and Molecular Principles, W.H. Freeman and Co., NY, which is incorporated herein by reference in its entirety. Short peptides, for example, can be synthesized on a solid support or in solution. Longer peptides may be made using recombinant DNA techniques. Here, the nucleotide sequences encoding the peptides of the invention may be synthesized, and/or cloned, and expressed according to techniques well known to those of ordinary skill in the art. See, for example, Sambrook, et al., 1989, Molecular Cloning, A Laboratory Manual, Vols. 1-3, Cold Spring Harbor Press, NY.

The peptides of the invention may alternatively be synthesized such that one or more of the bonds which link the amino acid residues of the peptides are non-peptide bonds. These alternative non-peptide bonds may be formed by utilizing reactions well known to those in the art, and may include, but are not limited to imino, ester, hydrazide, semicarbazide, and azo bonds, to name but a few. In yet another embodiment of the invention, peptides comprising the sequences described above may be synthesized with additional chemical groups present at their amino and/or carboxy termini, such that, for example, the stability, bioavailability, and/or inhibitory activity of the peptides is enhanced. For example, hydrophobic groups such as carbobenzoxyl, dansyl, or t-butyloxycarbonyl groups, may be added to the peptides' amino termini. Likewise, an acetyl group or a 9-fluorenylmethoxy-carbonyl group may be placed at the peptides' amino termini. (See "X" in Tables I to IV,

above.) Additionally, the hydrophobic group, t-butyloxycarbonyl, or an amido group may be added to the peptides' carboxy termini. (See "Z" in Tables I to IV, above.)

Further, the peptides of the invention may be synthesized such that their steric configuration is altered. For example, the D-isomer of one or more of the amino acid residues of the peptide may be used, rather than the usual L-isomer.

Still further, at least one of the amino acid residues of the peptides of the invention may be substituted by one of the well known non-naturally occurring amino acid residues. Alterations such as these may serve to increase the stability, bioavailability and/or inhibitory action of the peptides of the invention.

Any of the peptides described above may, additionally, have a macromolecular carrier group covalently attached to their amino and/or carboxy termini. Such macromolecular carrier groups may include, for example, lipid-fatty acid conjugates, polyethylene glycol, carbohydrates or additional peptides. "X", in Tables I to IV, above, may therefore additionally represent any of the above macromolecular carrier groups covalently attached to the amino terminus of a peptide, with an additional peptide group being preferred. Likewise, "Z", in Tables I to IV, may additionally represent any of the macromolecular carrier groups described above.

5.5. ASSAYS FOR ANTI-MEMBRANE FUSION ACTIVITY

Described herein, are methods for ability of a compound, such as the peptides of the invention, to inhibit membrane fusion events. Specifically, assays for cell fusion events are described in Section 5.5.1,

below, and assays for antiviral activity are described in Section 5.5.2, below.

5.5.1 ASSAYS FOR CELL FUSION EVENTS

Assays for cell fusion events are well known to those of skill in the art, and may be used in conjunction, for example, with the peptides of the invention to test the peptides' antifusogenic capabilities.

Cell fusion assays are generally performed in vitro. Such an assay may comprise culturing cells which, in the absence of any treatment would undergo an observable level of syncytial formation. For example, uninfected cells may be incubated in the presence of cells chronically infected with a virus that induces cell fusion. Such viruses may include, but are not limited to, HIV, SIV, or respiratory syncytial virus.

For the assay, cells are incubated in the presence of a peptide to be assayed. For each peptide, a range of peptide concentrations may be tested. This range should include a control culture wherein no peptide has been added.

Standard conditions for culturing cells, well known to those of ordinary skill in the art, are used. After incubation for an appropriate period (24 hours at 37°C, for example) the culture is examined microscopically for the presence of multinucleated giant cells, which are indicative of cell fusion and syncytial formation. Well known stains, such as crystal violet stain, may be used to facilitate the visualization of syncytial formation.

5.5.2 ASSAYS FOR ANTIVIRAL ACTIVITY

The antiviral activity exhibited by the peptides of the invention may be measured, for example, by

easily performed in vitro assays, such as those described below, which can test the peptides' ability to inhibit syncytia formation, or their ability to inhibit infection by cell-free virus. Using these assays, such parameters as the relative antiviral activity of the peptides, exhibit against a given strain of virus and/or the strain specific inhibitory activity of the peptide can be determined.

A cell fusion assay may be utilized to test the peptides' ability to inhibit viral-induced, such as HIV-induced, syncytia formation in vitro. Such an assay may comprise culturing uninfected cells in the presence of cells chronically infected with a syncytial-inducing virus and a peptide to be assayed. For each peptide, a range of peptide concentrations may be tested. This range should include a control culture wherein no peptide has been added. Standard conditions for culturing, well known to those of ordinary skill in the art, are used. After incubation for an appropriate period (24 hours at 37°C, for example) the culture is examined microscopically for the presence of multinucleated giant cells, which are indicative of cell fusion and syncytia formation. Well known stains, such as crystal violet stain, may be used to facilitate syncytial visualization. Taking HIV as an example, such an assay would comprise CD-4$^+$ cells (such as Molt or CEM cells, for example) cultured in the presence of chronically HIV-infected cells and a peptide to be assayed.

Other well known characteristics of viral infection may also be assayed to test a peptide's antiviral capabilities. Once again taking HIV as an example, a reverse transcriptase (RT) assay may be utilized to test the peptides' ability to inhibit infection of CD-4$^+$ cells by cell-free HIV. Such an assay may comprise culturing an appropriate

concentration (i.e., $TCID_{50}$) of virus and CD-4$^+$ cells in the presence of the peptide to be tested. Culture conditions well known to those in the art are used. As above, a range of peptide concentrations may be used, in addition to a control culture wherein no peptide has been added. After incubation for an appropriate period (e.g., 7 days) of culturing, a cell-free supernatant is prepared, using standard procedures, and tested for the present of RT activity as a measure of successful infection. The RT activity may be tested using standard techniques such as those described by, for example, Goff et al. (Goff, S. et al., 1981, J. Virol. 38:239-248) and/or Willey et al. (Willey, R. et al., 1988, J. Virol. 62:139-147). These references are incorporated herein by reference in their entirety.

Standard methods which are well-known to those of skill in the art may be utilized for assaying non-retroviral activity. See, for example, Pringle et al. (Pringle, C.R. et al., 1985, J. Medical Virology 17:377-386) for a discussion of respiratory syncytial virus and parainfluenza virus activity assay techniques. Further, see, for example, "Zinsser Microbiology", 1988, Joklik, W.K. et al., eds., Appleton & Lange, Norwalk, CT, 19th ed., for a general review of such techniques. These references are incorporated by reference herein in their entirety. In addition, the Examples presented below, in Sections 17, 18, 26 and 27 each provide additional assays for the testing of a compound's antiviral capability.

In vivo assays may also be utilized to test, for example, the antiviral activity of the peptides of the invention. To test for anti-HIV activity, for example, the in vivo model described in Barnett et al. (Barnett, S.W. et al., 1994, Science 266:642-646) may be used.

Additionally, anti-RSV activity can be assayed in vivo via well known mouse models. For example, RSV can be administered intranasally to mice of various inbred strains. Virus replicates in lungs of all strains, but the highest titers are obtained in P/N, C57L/N and DBA/2N mice. Infection of BALB/c mice produces an asymptomatic bronchiolitis characterized by lymphocytic infiltrates and pulmonary virus titers of 10^4 to 10^5 pfu/g of lung tissue (Taylor, G. et al., 1984, Infect. Immun. 43:649-655).

Cotton rat models of RSV are also well known. Virus replicates to high titer in the nose and lungs of the cotton rat but produces few if any signs of inflammation.

5.6. USES OF THE PEPTIDES OF THE INVENTION

The peptides of the invention may be utilized as antifusogenic or antiviral compounds, or as compounds which modulate intracellular processes involving coiled coil peptide structures. Further, such peptides may be used to identify agents which exhibit antifusogenic, antiviral or intracellular modulatory activity. Still further, the peptides of the invention may be utilized as organism or viral type/subtype-specific diagnostic tools.

The antifusogenic capability of the peptides of the invention may additionally be utilized to inhibit or treat/ameliorate symptoms caused by processes involving membrane fusion events. Such events may include, for example, virus transmission via cell-cell fusion, abnormal neurotransmitter exchange via cell-fusion, and sperm-egg fusion. Further, the peptides of the invention may be used to inhibit free viral, such as retroviral, particularly HIV, transmission to uninfected cells wherein such viral infection involves membrane fusion events or involves fusion of a viral

structure with a cell membrane. Among the intracellular disorders involving coiled coil peptides structures which may be ameliorated by the peptides of the invention are disorders involving, for example, bacterial toxins.

With respect to antiviral activity, the viruses whose transmission may be inhibited by the peptides of the invention include, but are not limited to all strains of the viruses listed above, in Tables V through VII, and IX through XIV.

These viruses include, for example, human retroviruses, particularly HIV-1 and HIV-2 and the human T-lymphocyte viruses (HTLV-I and II). The non-human retroviruses whose transmission may be inhibited by the peptides of the invention include, but are not limited to bovine leukosis virus, feline sarcoma and leukemia viruses, simian immunodeficiency, sarcoma and leukemia viruses, and sheep progress pneumonia viruses.

Non retroviral viruses whose transmission may be inhibited by the peptides of the invention include, but are not limited to human respiratory syncytial virus, canine distemper virus, newcastle disease virus, human parainfluenza virus, influenza viruses, measles viruses, Epstein-Barr viruses, hepatitis B viruses, and simian Mason-Pfizer viruses.

Non enveloped viruses whose transmission may be inhibited by the peptides of the invention include, but are not limited to picornaviruses such as polio viruses, hepatitis A virus, enterovirus, echoviruses and coxsackie viruses, papovaviruses such as papilloma virus, parvoviruses, adenoviruses and reoviruses.

As discussed more fully, below, in Section 5.5.1 and in the Example presented, below, in Section 8, DP107, DP178, DP107 analog and DP178 analog peptides form non-covalent protein-protein interactions which

are required for normal activity of the virus. Thus, the peptides of the invention may also be utilized as components in assays for the identification of compounds that interfere with such protein-protein interactions and may, therefore, act as antiviral agents. These assays are discussed, below, in Section 5.5.1.

As demonstrated in the Example presented below in Section 6, the antiviral activity of the peptides of the invention may show a pronounced type and subtype specificity, i.e., specific peptides may be effective in inhibiting the activity of only specific viruses. This feature of the invention presents many advantages. One such advantage, for example, lies in the field of diagnostics, wherein one can use the antiviral specificity of the peptide of the invention to ascertain the identity of a viral isolate. With respect to HIV, one may easily determine whether a viral isolate consists of an HIV-1 or HIV-2 strain. For example, uninfected CD-4$^+$ cells may be co-infected with an isolate which has been identified as containing HIV the DP178 (SEQ ID:1) peptide, after which the retroviral activity of cell supernatants may be assayed, using, for example, the techniques described above in Section 5.2. Those isolates whose retroviral activity is completely or nearly completely inhibited contain HIV-1. Those isolates whose viral activity is unchanged or only reduced by a small amount, may be considered to not contain HIV-1. Such an isolate may then be treated with one or more of the other DP178 peptides of the invention, and subsequently be tested for its viral activity in order to determine the identify of the viral isolate. The DP107 and DP178 analogs of the invention may also be utilized in a diagnostic capacity specific to the type and subtype of virus or organism in which the specific

peptide sequence is found. A diagnostic procedure as described, above, for DP178, may be used in conjunction with the DP107/DP178 analog of interest.

5.5.1. SCREENING ASSAYS

As demonstrated in the Example presented in Section 8, below, DP107 and DP178 portions of the TM protein gp41 form non-covalent protein-protein interactions. As is also demonstrated, the maintenance of such interactions is necessary for normal viral infectivity. Thus, compounds which bind DP107, bind DP178, and/or act to disrupt normal DP107/DP178 protein-protein interactions may act as antifusogenic, antiviral or cellular modulatory agents. Described below are assays for the identification of such compounds. Note that, while, for ease and clarity of discussion, DP107 and DP178 peptides will be used as components of the assays described, but it is to be understood that any of the DP107 analog or DP178 analog peptides described, above, in Sections 5.1 through 5.3 may also be utilized as part of these screens for compounds.

Compounds which may be tested for an ability to bind DP107, DP178, and/or disrupt DP107/DP178 interactions, and which therefore, potentially represent antifusogenic, antiviral or intracellular modulatory compounds, include, but are not limited to, peptides made of D- and/or L-configuration amino acids (in, for example, the form of random peptide libraries; see Lam, K.S. et al., 1991, Nature 354:82-84), phosphopeptides (in, for example, the form of random or partially degenerate, directed phosphopeptide libraries; see, for example, Songyang, Z. et al., 1993, Cell 72:767-778), antibodies, and small organic or inorganic molecules. Synthetic compounds, natural products, and other sources of

potentially effective materials may be screened in a variety of ways, as described in this Section.

The compounds, antibodies, or other molecules identified may be tested, for example, for an ability to inhibit cell fusion or viral activity, utilizing, for example, assays such as those described, above, in Section 5.5.

Among the peptides which may be tested are soluble peptides comprising DP107 and/or DP178 domains, and peptides comprising DP107 and/or DP178 domains having one or more mutations within one or both of the domains, such as the M41-P peptide described, below, in the Example presented in Section 8, which contains a isoleucine to proline mutation within the DP178 sequence.

In one embodiment of such screening methods is a method for identifying a compound to be tested for antiviral ability comprising:

(a) exposing at least one compound to a peptide comprising a DP107 peptide for a time sufficient to allow binding of the compound to the DP107 peptide;

(b) removing non-bound compounds; and

(c) determining the presence of the compound bound to the DP107 peptide,

thereby identifying an agent to be tested for antiviral ability.

In a second embodiment of such screening methods is a method for identifying a compound to be tested for antiviral ability comprising:

(a) exposing at least one compound to a peptide comprising a DP178 peptide for a time sufficient to allow binding of the compound to the DP178 peptide;

(b) removing non-bound compounds; and

(c) determining the presence of the compound bound to the DP178 peptide, thereby identifying an agent to be tested for antiviral ability.

One method utilizing these types of approaches that may be pursued in the isolation of such DP107-binding or DP178-binding compounds is an assay which would include the attachment of either the DP107 or the DP178 peptide to a solid matrix, such as, for example, agarose or plastic beads, microtiter plate wells, petri dishes, or membranes composed of, for example, nylon or nitrocellulose. In such an assay system, either the DP107 or DP178 protein may be anchored onto a solid surface, and the compound, or test substance, which is not anchored, is labeled, either directly or indirectly. In practice, microtiter plates are conveniently utilized. The anchored component may be immobilized by non-covalent or covalent attachments. Non-covalent attachment may be accomplished simply by coating the solid surface with a solution of the protein and drying.

Alternatively, an immobilized antibody, preferably a monoclonal antibody, specific for the protein may be used to anchor the protein to the solid surface. The surfaces may be prepared in advance and stored.

In order to conduct the assay, the labeled compound is added to the coated surface containing the anchored DP107 or DP178 peptide. After the reaction is complete, unreacted components are removed (e.g., by washing) under conditions such that any complexes formed will remain immobilized on the solid surface. The detection of complexes anchored on the solid surface can be accomplished in a number of ways. Where the compound is pre-labeled, the detection of label immobilized on the surface indicates that

complexes were formed. Where the labeled component is not pre-labeled, an indirect label can be used to detect complexes anchored on the surface; e.g., using a labeled antibody specific for the compound (the antibody, in turn, may be directly labeled or indirectly labeled with a labeled anti-Ig antibody).

Alternatively, such an assay can be conducted in a liquid phase, the reaction products separated from unreacted components, and complexes detected; e.g., using an immobilized antibody specific for DP107 or DP178, whichever is appropriate for the given assay, or ab antibody specific for the compound, i.e., the test substance, in order to anchor any complexes formed in solution, and a labeled antibody specific for the other member of the complex to detect anchored complexes.

By utilizing procedures such as this, large numbers of types of molecules may be simultaneously screened for DP107 or DP178-binding capability, and thus potential antiviral activity.

Further, compounds may be screened for an ability to inhibit the formation of or, alternatively, disrupt DP107/DP178 complexes. Such compounds may then be tested for antifusogenic, antiviral or intercellular modulatory capability. For ease of description, DP107 and DP178 will be referred to as "binding partners." Compounds that disrupt such interactions may exhibit antiviral activity. Such compounds may include, but are not limited to molecules such as antibodies, peptides, and the like described above.

The basic principle of the assay systems used to identify compounds that interfere with the interaction between the DP107 and DP178 peptides involves preparing a reaction mixture containing peptides under conditions and for a time sufficient to allow the two peptides to interact and bind, thus forming a complex.

In order to test a compound for disruptive activity, the reaction is conducted in the presence and absence of the test compound, i.e., the test compound may be initially included in the reaction mixture, or added at a time subsequent to the addition of one of the binding partners; controls are incubated without the test compound or with a placebo. The formation of any complexes between the binding partners is then detected. The formation of a complex in the control reaction, but not in the reaction mixture containing the test compound indicates that the compound interferes with the interaction of the DP107 and DP178 peptides.

The assay for compounds that interfere with the interaction of the binding partners can be conducted in a heterogeneous or homogeneous format. Heterogeneous assays involve anchoring one of the binding partners onto a solid phase and detecting complexes anchored on the solid phase at the end of the reaction. In homogeneous assays, the entire reaction is carried out in a liquid phase. In either approach, the order of addition of reactants can be varied to obtain different information about the compounds being tested. For example, test compounds that interfere with the interaction between the binding partners, e.g., by competition, can be identified by conducting the reaction in the presence of the test substance; i.e., by adding the test substance to the reaction mixture prior to or simultaneously with the binding partners. On the other hand, test compounds that disrupt preformed complexes, e.g. compounds with higher binding constants that displace one of the binding partners from the complex, can be tested by adding the test compound to the reaction mixture after complexes have

been formed. The various formats are described briefly below.

In a heterogeneous assay system, one binding partner, e.g., either the DP107 or DP178 peptide, is anchored onto a solid surface, and its binding partner, which is not anchored, is labeled, either directly or indirectly. In practice, microtiter plates are conveniently utilized. The anchored species may be immobilized by non-covalent or covalent attachments. Non-covalent attachment may be accomplished simply by coating the solid surface with a solution of the protein and drying. Alternatively, an immobilized antibody specific for the protein may be used to anchor the protein to the solid surface. The surfaces may be prepared in advance and stored.

In order to conduct the assay, the binding partner of the immobilized species is added to the coated surface with or without the test compound. After the reaction is complete, unreacted components are removed (e.g., by washing) and any complexes formed will remain immobilized on the solid surface. The detection of complexes anchored on the solid surface can be accomplished in a number of ways. Where the binding partner was pre-labeled, the detection of label immobilized on the surface indicates that complexes were formed. Where the binding partner is not pre-labeled, an indirect label can be used to detect complexes anchored on the surface; e.g., using a labeled antibody specific for the binding partner (the antibody, in turn, may be directly labeled or indirectly labeled with a labeled anti-Ig antibody). Depending upon the order of addition of reaction components, test compounds which inhibit complex formation or which disrupt preformed complexes can be detected.

Alternatively, the reaction can be conducted in a liquid phase in the presence or absence of the test compound, the reaction products separated from unreacted components, and complexes detected; e.g., using an immobilized antibody specific for one binding partner to anchor any complexes formed in solution, and a labeled antibody specific for the other binding partner to detect anchored complexes. Again, depending upon the order of addition of reactants to the liquid phase, test compounds which inhibit complex or which disrupt preformed complexes can be identified.

In an alternate embodiment of the invention, a homogeneous assay can be used. In this approach, a preformed complex of the DP107 and DP178 peptides is prepared in which one of the binding partners is labeled, but the signal generated by the label is quenched due to complex formation (see, e.g., U.S. Patent No. 4,109,496 by Rubenstein which utilizes this approach for immunoassays). The addition of a test substance that competes with and displaces one of the binding partners from the preformed complex will result in the generation of a signal above background. In this way, test substances which disrupt DP-107/ DP-178 protein-protein interaction can be identified.

In an alternative screening assay, test compounds may be assayed for the their ability to disrupt a DP178/DP107 interaction, as measured immunometrically using an antibody specifically reactive to a DP107/DP178 complex (i.e., an antibody that recognizes neither DP107 nor DP178 individually). Such an assay acts as a competition assay, and is based on techniques well known to those of skill in the art.

The above competition assay may be described, by way of example, and not by way of limitation, by using the DP178 and M41Δ178 peptides and by assaying test

compounds for the disruption of the complexes formed by these two peptides by immunometrically visualizing DP178/M41Δ178 complexes via the human recombinant Fab, Fab-d, as described, below, in the Example presented in Section 8. M41Δ178 is a maltose binding fusion protein containing a gp41 region having its DP178 domain deleted, and is described, below, in the Example presented in Section 8.

Utilizing such an assay, M41Δ178 may be immobilized onto solid supports such as microtiter wells. A series of dilutions of a test compound may then be added to each M41Δ178-containing well in the presence of a constant concentration of DP-178 peptide. After incubation, at, for example, room temperature for one hour, unbound DP-178 and test compound are removed from the wells and wells are then incubated with the DP178/M41Δ178-specific Fab-d antibody. After incubation and washing, unbound Fab-d is removed from the plates and bound Fab-d is quantitated. A no-inhibitor control should also be conducted. Test compounds showing an ability to disrupt DP178/M41Δ178 complex formation are identified by their concentration-dependent decrease in the level of Fab-d binding.

A variation of such an assay may be utilized to perform a rapid, high-throughput binding assay which is capable of directly measuring DP178 binding to M41Δ178 for the determination of binding constants of the ligand of inhibitory constants for competitors of DP178 binding.

Such an assay takes advantage of accepted radioligand and receptor binding principles. (See, for example, Yamamura, H.I. et al., 1985, "Neurotransmitter Receptor Binding", 2nd ed., Raven Press, NY.) As above, M41Δ178 is immobilized onto a solid support such as a microtiter well. DP178

binding to M41Δ178 is then quantitated by measuring the fraction of DP178 that is bound as ^{125}I-DP178 and calculating the total amount bound using a value for specific activity (dpm/μg peptide) determined for each labeled DP178 preparation. Specific binding to M41Δ178 is defined as the difference of the binding of the labeled DP178 preparation in the microtiter wells (totals) and the binding in identical wells containing, in addition, excess unlabeled DP178 (nonspecifics).

5.5 PHARMACEUTICAL FORMULATIONS, DOSAGES AND MODES OF ADMINISTRATION

The peptides of the invention may be administered using techniques well known to those in the art. Preferably, agents are formulated and administered systemically. Techniques for formulation and administration may be found in "Remington's Pharmaceutical Sciences", 18th ed., 1990, Mack Publishing Co., Easton, PA. Suitable routes may include oral, rectal, transmucosal, or intestinal administration; parenteral delivery, including intramuscular, subcutaneous, intramedullary injections, as well as, intrathecal, direct intraventricular, intravenous, intraperitoneal, intranasal, or intraocular injections, just to name a few. For injection, the agents of the invention may be formulated in aqueous solutions, preferably in physiologically compatible buffers such as Hanks' solution, Ringer's solution, or physiological saline buffer. For such transmucosal administration, penetrants appropriate to the barrier to be permeated are used in the formulation. Such penetrants are generally known in the art.

In instances wherein intracellular administration of the peptides of the invention or other inhibitory

agents is preferred, techniques well known to those of ordinary skill in the art may be utilized. For example, such agents may be encapsulated into liposomes, then administered as described above. Liposomes are spherical lipid bilayers with aqueous interiors. All molecules present in an aqueous solution at the time of liposome formation are incorporated into the aqueous interior. The liposomal contents are both protected from the external microenvironment and, because liposomes fuse with cell membranes, are effectively delivered into the cell cytoplasm. Additionally, due to their hydrophobicity, when small molecules are to be administered, direct intracellular administration may be achieved.

Nucleotide sequences encoding the peptides of the invention which are to be intracellularly administered may be expressed in cells of interest, using techniques well known to those of skill in the art. For example, expression vectors derived from viruses such as retroviruses, vaccinia viruses, adeno-associated viruses, herpes viruses, or bovine papilloma viruses, may be used for delivery and expression of such nucleotide sequences into the targeted cell population. Methods for the construction of such vectors and expression constructs are well known. See, for example, Sambrook et al., 1989, Molecular Cloning, A Laboratory Manual, Cold Spring Harbor Press, Cold Spring Harbor NY, and Ausubel et al., 1989, Current Protocols in Molecular Biology, Greene Publishing Associates and Wiley Interscience, NY.

With respect to HIV, peptides of the invention, particularly DP107 and DP178, may be used as therapeutics in the treatment of AIDS. In addition, the peptides may be used as prophylactic measures in previously uninfected individuals after acute exposure

to an HIV virus. Examples of such prophylactic use of the peptides may include, but are not limited to, prevention of virus transmission from mother to infant and other settings where the likelihood of HIV transmission exists, such as, for example, accidents in health care settings wherein workers are exposed to HIV-containing blood products. The successful use of such treatments do not rely upon the generation of a host immune response directed against such peptides.

Effective dosages of the peptides of the invention to be administered may be determined through procedures well known to those in the art which address such parameters as biological half-life, bioavailability, and toxicity. Given the data presented below in Section 6, DP178, for example, may prove efficacious in vivo at doses required to achieve circulating levels of about 1 to about 10 ng per ml of peptide.

A therapeutically effective dose refers to that amount of the compound sufficient to result in amelioration of symptoms or a prolongation of survival in a patient. Toxicity and therapeutic efficacy of such compounds can be determined by standard pharmaceutical procedures in cell cultures or experimental animals, e.g., for determining the LD_{50} (the dose lethal to 50% of the population) and the ED50 (the dose therapeutically effective in 50% of the population). The dose ratio between toxic and therapeutic effects is the therapeutic index and it can be expressed as the ratio LD_{50}/ED_{50}. Compounds which exhibit large therapeutic indices are preferred. The data obtained from these cell culture assays and animal studies can be used in formulating a range of dosage for use in humans. The dosage of such compounds lies preferably within a range of circulating concentrations that include the ED50 with

little or no toxicity. The dosage may vary within this range depending upon the dosage form employed and the route of administration utilized. For any compound used in the method of the invention, the therapeutically effective dose can be estimated initially from cell culture assays. A dose may be formulated in animal models to achieve a circulating plasma concentration range that includes the IC_{50} (e.g., the concentration of the test compound which achieves a half-maximal inhibition of the fusogenic event, such as a half-maximal inhibition of viral infection relative to the amount of the event in the absence of the test compound) as determined in cell culture. Such information can be used to more accurately determine useful doses in humans. Levels in plasma may be measured, for example, by high performance liquid chromatography (HPLC).

The peptides of the invention may, further, serve the role of a prophylactic vaccine, wherein the host raises antibodies against the peptides of the invention, which then serve to neutralize HIV viruses by, for example, inhibiting further HIV infection.

Administration of the peptides of the invention as a prophylactic vaccine, therefore, would comprise administering to a host a concentration of peptides effective in raising an immune response which is sufficient to neutralize HIV, by, for example, inhibiting HIV ability to infect cells. The exact concentration will depend upon the specific peptide to be administered, but may be determined by using standard techniques for assaying the development of an immune response which are well known to those of ordinary skill in the art. The peptides to be used as vaccines are usually administered intramuscularly.

The peptides may be formulated with a suitable adjuvant in order to enhance the immunological

response. Such adjuvants may include, but are not limited to mineral gels such as aluminum hydroxide; surface active substances such as lysolecithin, pluronic polyols, polyanions; other peptides; oil emulsions; and potentially useful human adjuvants such as BCG and Corynebacterium parvum. Many methods may be used to introduce the vaccine formulations described here. These methods include but are not limited to oral, intradermal, intramuscular, intraperitoneal, intravenous, subcutaneous, and intranasal routes.

Alternatively, an effective concentration of polyclonal or monoclonal antibodies raised against the peptides of the invention may be administered to a host so that no uninfected cells become infected by HIV. The exact concentration of such antibodies will vary according to each specific antibody preparation, but may be determined using standard techniques well known to those of ordinary skill in the art. Administration of the antibodies may be accomplished using a variety of techniques, including, but not limited to those described in this section.

For all such treatments described above, the exact formulation, route of administration and dosage can be chosen by the individual physician in view of the patient's condition. (See e.g. Fingl et al., 1975, in "The Pharmacological Basis of Therapeutics", Ch. 1 p1).

It should be noted that the attending physician would know how to and when to terminate, interrupt, or adjust administration due to toxicity, or to organ dysfunctions. Conversely, the attending physician would also know to adjust treatment to higher levels if the clinical response were not adequate (precluding toxicity). The magnitude of an administrated dose in the management of the oncogenic disorder of interest

will vary with the severity of the condition to be treated and the route of administration. The dose and perhaps dose frequency, will also vary according to the age, body weight, and response of the individual patient. A program comparable to that discussed above may be used in veterinary medicine.

Use of pharmaceutically acceptable carriers to formulate the compounds herein disclosed for the practice of the invention into dosages suitable for systemic administration is within the scope of the invention. With proper choice of carrier and suitable manufacturing practice, the compositions of the present invention, in particular, those formulated as solutions, may be administered parenterally, such as by intravenous injection. The compounds can be formulated readily using pharmaceutically acceptable carriers well known in the art into dosages suitable for oral administration. Such carriers enable the compounds of the invention to be formulated as tablets, pills, capsules, liquids, gels, syrups, slurries, suspensions and the like, for oral ingestion by a patient to be treated.

Pharmaceutical compositions suitable for use in the present invention include compositions wherein the active ingredients are contained in an effective amount to achieve its intended purpose. Determination of the effective amounts is well within the capability of those skilled in the art, especially in light of the detailed disclosure provided herein.

In addition to the active ingredients, these pharmaceutical compositions may contain suitable pharmaceutically acceptable carriers comprising excipients and auxiliaries which facilitate processing of the active compounds into preparations which can be used pharmaceutically. The preparations formulated

for oral administration may be in the form of tablets, dragees, capsules, or solutions.

The pharmaceutical compositions of the present invention may be manufactured in a manner that is itself known, e.g., by means of conventional mixing, dissolving, granulating, dragee-making, levigating, emulsifying, encapsulating, entrapping or lyophilizing processes.

Pharmaceutical formulations for parenteral administration include aqueous solutions of the active compounds in water-soluble form. Additionally, suspensions of the active compounds may be prepared as appropriate oily injection suspensions. Suitable lipophilic solvents or vehicles include fatty oils such as sesame oil, or synthetic fatty acid esters, such as ethyl oleate or triglycerides, or liposomes. Aqueous injection suspensions may contain substances which increase the viscosity of the suspension, such as sodium carboxymethyl cellulose, sorbitol, or dextran. Optionally, the suspension may also contain suitable stabilizers or agents which increase the solubility of the compounds to allow for the preparation of highly concentrated solutions.

Pharmaceutical preparations for oral use can be obtained by combining the active compounds with solid excipient, optionally grinding a resulting mixture, and processing the mixture of granules, after adding suitable auxiliaries, if desired, to obtain tablets or dragee cores. Suitable excipients are, in particular, fillers such as sugars, including lactose, sucrose, mannitol, or sorbitol; cellulose preparations such as, for example, maize starch, wheat starch, rice starch, potato starch, gelatin, gum tragacanth, methyl cellulose, hydroxypropylmethyl-cellulose, sodium carboxymethylcellulose, and/or polyvinylpyrrolidone (PVP). If desired, disintegrating agents may be

added, such as the cross-linked polyvinyl pyrrolidone, agar, or alginic acid or a salt thereof such as sodium alginate.

Dragee cores are provided with suitable coatings. For this purpose, concentrated sugar solutions may be used, which may optionally contain gum arabic, talc, polyvinyl pyrrolidone, carbopol gel, polyethylene glycol, and/or titanium dioxide, lacquer solutions, and suitable organic solvents or solvent mixtures. Dyestuffs or pigments may be added to the tablets or dragee coatings for identification or to characterize different combinations of active compound doses.

Pharmaceutical preparations which can be used orally include push-fit capsules made of gelatin, as well as soft, sealed capsules made of gelatin and a plasticizer, such as glycerol or sorbitol. The push-fit capsules can contain the active ingredients in admixture with filler such as lactose, binders such as starches, and/or lubricants such as talc or magnesium stearate and, optionally, stabilizers. In soft capsules, the active compounds may be dissolved or suspended in suitable liquids, such as fatty oils, liquid paraffin, or liquid polyethylene glycols. In addition, stabilizers may be added.

6. EXAMPLE: DP178 (SEQ ID:1) IS A POTENT INHIBITOR OF HIV-1 INFECTION

In this example, DP178 (SEQ ID:1) is shown to be a potent inhibitor of HIV-1 mediated CD-4$^+$ cell-cell fusion and infection by cell free virus. In the fusion assay, this peptide completely blocks virus induced syncytia formation at concentrations of from 1-10 ng/ml. In the infectivity assay the inhibitory concentration is somewhat higher, blocking infection at 90ng/ml. It is further shown that DP178 (SEQ ID:1) shows that the antiviral activity of DP178 (SEQ ID:1)

is highly specific for HIV-1. Additionally, a synthetic peptide, DP-185 (SEQ ID:3), representing a HIV-1-derived DP178 homolog is also found to block HIV-1-mediated syncytia formation.

6.1. MATERIALS AND METHODS

6.1.1. PEPTIDE SYNTHESIS

Peptides were synthesized using Fast Moc chemistry on an Applied Biosystems Model 431A peptide synthesizer. Generally, unless otherwise noted, the peptides contained amidated carboxy termini and acetylated amino termini. Amidated peptides were prepared using Rink resin (Advanced Chemtech) while peptides containing free carboxy termini were synthesized on Wang (p-alkoxy-benzyl-alcohol) resin (Bachem). First residues were double coupled to the appropriate resin and subsequent residues were single coupled. Each coupling step was followed by acetic anhydride capping. Peptides were cleaved from the resin by treatment with trifluoracetic acid (TFA) (10ml), H_2O (0.5ml), thioanisole (0.5ml), ethanedithiol (0.25ml), and crystalline phenol (0.75g). Purification was carried out by reverse phase HPLC. Approximately 50mg samples of crude peptide were chromatographed on a Waters Delta Pak C18 column (19mm x 30cm, 15μ spherical) with a linear gradient; H_2O/acetonitrile 0.1% TFA. Lyophilized peptides were stored desiccated and peptide solutions were made in water at about 1mg/ml. Electrospray mass spectrometry yielded the following results: DP178 (SEQ ID:1):4491.87 (calculated 4491.94); DP-180 (SEQ ID:2):4491.45 (calculated 4491.94); DP-185 (SEQ ID:3):not done (calculated 4546.97).

6.1.2. VIRUS

The HIV-1_{LAI} virus was obtained from R. Gallo (Popovic, M. et al., 1984, Science 224:497-508) and propagated in CEM cells cultured in RPMI 1640 containing 10% fetal calf serum. Supernatant from the infected CEM cells was passed through a 0.2μm filter and the infectious titer estimated in a microinfectivity assay using the AA5 cell line to support virus replication. For this purpose, 25μl of serial diluted virus was added to 75μl AA5 cells at a concentration of 2 x 10^5/ml in a 96-well microtitre plate. Each virus dilution was tested in triplicate. Cells were cultured for eight days by addition of fresh medium every other day. On day 8 post infection, supernatant samples were tested for virus replication as evidenced by reverse transcriptase activity released to the supernatant. The $TCID_{50}$ was calculated according to the Reed and Muench formula (Reed, L.J. et al., 1938, Am. J. Hyg. 27:493-497). The titer of the HIV-1_{LAI} and HIV-1_{MN} stocks used for these studies, as measured on the AA5 cell line, was approximately 1.4 x 10^6 and 3.8 x 10^4 $TCID_{50}$/ml, respectively.

6.1.3. CELL FUSION ASSAY

Approximately 7 x 10^4 Molt cells were incubated with 1 x 10^4 CEM cells chronically infected with the HIV-1_{LAI} virus in 96-well plates (one-half area cluster plates; Costar, Cambridge, MA) in a final volume of 100μl culture medium as previously described (Matthews, T.J. et al., 1987, Proc. Natl. Acad. Sci. USA 84: 5424-5428). Peptide inhibitors were added in a volume of 10μl and the cell mixtures were incubated for 24 hr. at 37°C. At that time, multinucleated giant cells were estimated by microscopic examination

at a 40x magnification which allowed visualization of the entire well in a single field.

6.1.4. CELL FREE VIRUS INFECTION ASSAY

Synthetic peptides were incubated at 37°C with either 247 $TCID_{50}$ (for experiment depicted in FIG. 2), or 62 $TCID_{50}$ (for experiment depicted in FIG.3) units of HIV-1_{LAI} virus or 25 $TCID_{50}$ units of HIV-2_{NIHZ} and CEM $CD4^+$ cells at peptide concentrations of 0, 0.04, 0.4, 4.0, and 40μg/ml for 7 days. The resulting reverse transcriptase (RT) activity in counts per minute was determined using the assay described, below, in Section 6.1.5. See, Reed, L.J. et al., 1938, Am. J. Hyg. 27: 493-497 for an explanation of $TCID_{50}$ calculations.

6.1.5. REVERSE TRANSCRIPTASE ASSAY

The micro-reverse transcriptase (RT) assay was adapted from Goff et al. (Goff, S. et al., 1981, J. Virol. 38:239-248) and Willey et al. (Willey, R. et al., 1988, J. Virol. 62:139-147). Supernatants from virus/cell cultures are adjusted to 1% Triton-X100. A 10μl sample of supernatant was added to 50μl of RT cocktail in a 96-well U-bottom microtitre plate and the samples incubated at 37°C for 90 min. The RT cocktail contained 75mM KCl, 2mM dithiothreitol, 5mM $MgCl_2$, 5μg/ml poly A (Pharmacia, cat. No. 27-4110-01), 0.25 units/ml oligo dT (Pharmacia, cat. No. 27-7858-01), 0.05% NP40, 50mM Tris-HCl, pH 7.8, 0.5μM non-radioactive dTTP, and 10μCi/ml ^{32}P-dTTP (Amersham, cat. No. PB.10167).

After the incubation period, 40μl of reaction mixture was applied to a Schleicher and Schuell (S+S) NA45 membrane (or DE81 paper) saturated in 2 x SSC buffer (0.3M NaCl and 0.003M sodium citrate) held in a S+S Minifold over one sheet of GB003 (S+S) filter

paper, with partial vacuum applied. Each well of the minifold was washed four times with 200μl 2xSSC, under full vacuum. The membrane was removed from the minifold and washed 2 more times in a pyrex dish with an excess of 2xSSC. Finally, the membrane was drained on absorbent paper, placed on Whatman #3 paper, covered with Saran wrap, and exposed to film overnight at -70°C.

6.2. RESULTS

6.2.1. PEPTIDE INHIBITION OF INFECTED CELL-INDUCED SYNCYTIA FORMATION

The initial screen for antiviral activity assayed peptides' ability to block syncytium formation induced by overnight co-cultivation of uninfected Molt4 cells with chronically HIV-1 infected CEM cells. The results of several such experiments are presented herein. In the first of these experiments, serial DP178 (SEQ ID:1) peptide concentrations between 10μg/ml and 12.5ng/ml were tested for blockade of the cell fusion process. For these experiments, CEM cells chronically infected with either HIV-1_{LAI}, HIV-1_{MN}, HIV-1_{RF}, or HIV-1_{SF2} virus were cocultivated overnight with uninfected Molt 4 cells. The results (FIG. 4) show that DP178 (SEQ ID:1) afforded complete protection against each of the HIV-1 isolates down to the lowest concentration of DP178 (SEQ ID:1) used. For HIV_{LAI} inhibition, the lowest concentration tested was 12.5ng/ml; for all other HIV-1 viruses, the lowest concentration of DP178 (SEQ ID:1) used in this study was 100ng/ml. A second peptide, DP-180 (SEQ ID:2), containing the same amino acid residues as DP178 (SEQ ID:1) but arranged in a random order exhibited no evidence of anti-fusogenic activity even at the high concentration of 40μg/ml (FIG. 4). These observations indicate that the inhibitory effect of DP178 (SEQ

ID:1) is primary sequence-specific and not related to non-specific peptide/protein interactions. The actual endpoint (i.e., the lowest effective inhibitory concentration) of DP178 inhibitory action is within the range of 1-10 ng/ml.

The next series of experiments involved the preparation and testing of a DP178 (SEQ ID:1) homolog for its ability to inhibit HIV-1-induced syncytia formation. As shown in FIG. 1, the sequence of DP-185 (SEQ ID:3) is slightly different from DP178 (SEQ ID:1) in that its primary sequence is taken from the HIV-1_{SF2} isolate and contains several amino acid differences relative to DP178 (SEQ ID:1) near the N terminus. As shown in FIG. 4, DP-185 (SEQ ID:3), exhibits inhibitory activity even at 312.5ng/ml, the lowest concentration tested.

The next series of experiments involved a comparison of DP178 (SEQ ID:1) HIV-1 and HIV-2 inhibitory activity. As shown in FIG. 5, DP178 (SEQ ID:1) blocked HIV-1-mediated syncytia formation at peptide concentrations below 1ng/ml. DP178 (SEQ ID:1) failed, however, to block HIV-2 mediated syncytia formation at concentrations as high as 10μg/ml. This striking 4 log selectivity of DP178 (SEQ ID:1) as an inhibitor of HIV-1-mediated cell fusion demonstrates an unexpected HIV-1 specificity in the action of DP178 (SEQ ID:1). DP178 (SEQ ID:1) inhibition of HIV-1-mediated cell fusion, but the peptide's inability to inhibit HIV-2 medicated cell fusion in the same cell type at the concentrations tested provides further evidence for the high degree of selectivity associated with the antiviral action of DP178 (SEQ ID:1).

6.2.2. PEPTIDE INHIBITION OF INFECTION BY CELL-FREE VIRUS

DP178 (SEQ ID:1) was next tested for its ability to block CD-4$^+$ CEM cell infection by cell free HIV-1 virus. The results, shown in FIG. 2, are from an experiment in which DP178 (SEQ ID:1) was assayed for its ability to block infection of CEM cells by an HIV-1_{LAI} isolate. Included in the experiment were three control peptides, DP-116 (SEQ ID:9), DP-125 (SEQ ID:8), and DP-118 (SEQ ID:10). DP-116 (SEQ ID:9) represents a peptide previously shown to be inactive using this assay, and DP-125 (SEQ ID:8; Wild, C. et al., 1992, Proc. Natl. Acad, Sci. USA 89:10,537) and DP-118 (SEQ ID:10) are peptides which have previously been shown to be active in this assay. Each concentration (0, 0.04, 0.4, 4, and 40μg/ml) of peptide was incubated with 247 $TCID_{50}$ units of HIV-1_{LAI} virus and CEM cells. After 7 days of culture, cell-free supernatant was tested for the presence of RT activity as a measure of successful infection. The results, shown in FIG. 2, demonstrate that DP178 (SEQ ID:1) inhibited the de novo infection process mediated by the HIV-1 viral isolate at concentrations as low as 90ng/ml (IC50=90ng/ml). In contrast, the two positive control peptides, DP-125 (SEQ: ID:8) and DP-118 (SEQ ID:10), had over 60-fold higher IC50 concentrations of approximately 5μg/ml.

In a separate experiment, the HIV-1 and HIV-2 inhibitory action of DP178 (SEQ ID:1) was tested with CEM cells and either HIV-1_{LAI} or HIV-2_{NIHZ}. 62 $TCID_{50}$ HIV-1_{LAI} or 25 $GCID_{50}$ HIV-2_{NIHZ} were used in these experiments, and were incubated for 7 days. As may be seen in FIG. 3, DP178 (SEQ ID:1) inhibited HIV-1 infection with an IC50 of about 31ng/ml. In contrast, DP178 (SEQ ID:1) exhibited a much higher IC50 for HIV-2_{NIHZ}, thus making DP178 (SEQ ID:1) two logs more potent

as a HIV-1 inhibitor than a HIV-2 inhibitor. This finding is consistent with the results of the fusion inhibition assays described, above, in Section 6.2.1, and further supports a significant level of selectivity (i.e., for HIV-1 over HIV-2).

7. EXAMPLE: THE HIV-1 INHIBITOR, DP178 (SEQ ID:1) IS NON-CYTOTOXIC

In this Example, the 36 amino acid synthetic peptide inhibitor DP178 (SEQ ID:1) is shown to be non-cytotoxic to cells in culture, even at the highest peptide concentrations (40μg/ml) tested.

7.1. MATERIALS AND METHODS

Cell proliferation and toxicity assay: Approximately 3.8×10^5 CEM cells for each peptide concentration were incubated for 3 days at 37°C in T25 flasks. Peptides tested were DP178 (SEQ ID:1) and DP-116 (SEQ ID:9), as described in FIG. 1. Peptides were synthesized as described, above, in Section 6.1. The concentrations of each peptide used were 0, 2.5, 10, and 40μg/ml. Cell counts were taken at incubation times of 0, 24, 48, and 72 hours.

7.2. RESULTS

Whether the potent HIV-1 inhibitor DP178 (SEQ ID:1) exhibited any cytotoxic effects was assessed by assaying the peptide's effects on the proliferation and viability of cells in culture. CEM cells were incubated in the presence of varying concentrations of DP178 (SEQ ID:1), and DP-116 (SEQ ID:9), a peptide previously shown to be ineffective as a HIV inhibitor (Wild, C. et al., 1992, Proc. Natl. Acad. Sci. USA 89:10,537-10,541). Additionally, cells were incubated in the absence of either peptide.

The results of the cytotoxicity study demonstrate that DP178 (SEQ ID:1) exhibits no cytotoxic effects on cells in culture. As can be seen, below, in Table XXIV, even the proliferation and viability characteristics of cells cultured for 3 days in the presence of the highest concentration of DP178 (SEQ ID:1) tested (40μg/ml) do not significantly differ from the DP-116 (SEQ ID:9) or the no-peptide controls. The cell proliferation data is also represented in graphic form in FIG. 6. As was demonstrated in the Working Example presented above in Section 6, DP178 (SEQ ID:1) completely inhibits HIV-1 mediated syncytia formation at peptide concentrations between 1 and 10ng/ml, and completely inhibits cell-free viral infection at concentrations of at least 90ng/ml. Thus, this study demonstrates that even at peptide concentrations greater than 3 log higher than the HIV inhibitory dose, DP178 (SEQ ID:1) exhibits no cytotoxic effects.

TABLE XXIV

Peptide	Peptide Concentration μg/ml	% Viability at time (hours) 0	24	48	72
DP178 (SEQ ID:1)	40	98	97	95	97
	10	98	97	98	98
	2.5	98	93	96	96
DP116 (SEQ ID:9)	40	98	95	98	97
	10	98	95	93	98
	2.5	98	96	98	99
No Peptide	0	98	97	99	98

8. EXAMPLE: THE INTERACTION OF DP178 AND DP107

Soluble recombinant forms of gp41 used in the example described below provide evidence that the DP178 peptide associates with a distal site on gp41 whose interactive structure is influenced by the DP107 leucine zipper motif. A single mutation disrupting the coiled-coil structure of the leucine zipper domain transformed the soluble recombinant gp41 protein from an inactive to an active inhibitor of HIV-1 fusion. This transformation may result from liberation of the potent DP178 domain from a molecular clasp with the leucine zipper, DP107, determinant. The results also indicate that the anti-HIV activity of various gp41 derivatives (peptides and recombinant proteins) may be

due to their ability to form complexes with viral gp41 and interfere with its fusogenic process.

8.1. MATERIALS AND METHODS

8.1.1. CONSTRUCTION OF FUSION PROTEINS AND GP41 MUTANTS

Construction of fusion proteins and mutants shown in FIG. 7 was accomplished as follows: the DNA sequence corresponding to the extracellular domain of gp41 (540-686) was cloned into the Xmn I site of the expression vector pMal-p2 (New England Biolab) to give M41. The gp41 sequence was amplified from pgtat (Malim et al., 1988, Nature 355: 181-183) by using polymerase chain reaction (PCR) with upstream primer 5'-ATGACGCTGACGGTACAGGCC-3' (primer A) and downstream primer 5'-TGACTAAGCTTAATACCACAGCCAATTTGTTAT-3' (primer B). M41-P was constructed by using the T7-Gen *in vitro* mutagenesis kit from United States Biochemicals (USB) following the supplier's instructions. The mutagenic primer (5'-GGAGCTGCTTGGGGCCCCAGAC-3') introduces an Ile to Pro mutation in M41 at position 578. M41Δ107, from which the DP-107 region has been deleted, was made using a deletion mutagenic primer 5'-CCAAATCCCCAGGAGCTGCTCGAGCTGCACTATACCAGAC-3' (primer C) following the USB T7-Gen mutagenesis protocol. M41Δ178, from which the DP-178 region has been deleted, was made by cloning the DNA fragment corresponding to gp41 amino acids 540-642 into the Xmn I site of pMal-p2. Primer A and 5'-ATAGCTTCTAGATTAATTGTTAATTTCTCTGTCCC-3' (primer D) were used in the PCR with the template pgtat to generate the inserted DNA fragments. M41-P was used as the template with primer A and D in PCR to generate M41-PΔ178. All inserted sequences and mutated residues

were checked by restriction enzyme analysis and confirmed by DNA sequencing.

8.1.2. PURIFICATION AND CHARACTERIZATION OF FUSION PROTEINS

The fusion proteins were purified according to the protocol described in the manufacturer's brochure of protein fusion and purification systems from New England Biolabs (NEB). Fusion proteins (10 ng) were analyzed by electrophoresis on 8% SDS polyacrylamide gels. Western blotting analysis was performed as described by Sambrook et al., 1989, Molecular Cloning: A Laboratory Manual, 2d Ed, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY, Ch. 18, pp. 64-75. An HIV-1 positive serum diluted 1000-fold, or a human Fab derived from repertoire cloning was used to react with the fusion proteins. The second antibody was HRP-conjugated goat antihuman Fab. An ECL Western blotting detection system (Amersham) was used to detect the bound antibody. A detailed protocol for this detection system was provided by the manufacturer. Rainbow molecular weight markers (Amersham) were used to estimate the size of fusion proteins.

8.1.3. CELL FUSION ASSAYS FOR ANTI-HIV ACTIVITY

Cell fusion assays were performed as previously described (Matthews et al., 1987, Proc. Natl. Acad. Sci. USA 84: 5424-5481). CEM cells (7 X 10^4) were incubated with HIV-1_{mn} chronically infected CEM cells (10^4) in 96-well flat-bottomed half-area plates (Costar) in 100 μl culture medium. Peptide and fusion proteins at various concentrations in 10 μl culture medium were incubated with the cell mixtures at 37°C for 24 hours. Multinucleated syncytia were estimated with microscopic examination. Both M41 and M41-P did

not show cytotoxicity at the concentrations tested and shown in FIG. 8.

Inhibition of HIV-1 induced cell-cell fusion activity was carried out in the presence of 10 nM DP178 and various concentrations of M41Δ178 or M41-PΔ178 as indicated in FIG. 9. There was no observable syncytia in the presence of 10 nM DP178. No peptide or fusion protein was added in the control samples.

8.1.4. ELISA ANALYSIS OF DP178 BINDING TO THE LEUCINE ZIPPER MOTIF OF GP41

The amino acid sequence of DP178 used is: YTSLIHSLIEESQNQQEKNEQELLELDKWASLWNWF. For enzyme linked immunoassay (ELISA), M41Δ178 or M41-PΔ178 (5 μg/ml) in 0.1M $NaHCO_3$, pH 8.6, were coated on 96 wells Linbro ELISA plates (Flow Lab, Inc.) overnight. Each well was washed three times with distilled water then blocked with 3% bovine serum albumin (BSA) for 2 hours. After blocking, peptides with 0.5% BSA in TBST (40 mM Tris-HCl pH7.5, 150 mM NaCl, 0.05% Tween 20) were added to the ELISA plates and incubated at room temperature for 1 hour. After washing three times with TBST, Fab-d was added at a concentration of 10 ng/ml with 0.5% BSA in TBST. The plates were washed three times with TBST after incubation at room temperature for 1 hour. Horse radish peroxidase (HRP) conjugated goat antihuman Fab antiserum at a 2000 fold dilution in TBST with 0.5% BSA was added to each well and incubated at room temperature for 45 minutes. The plates were then washed four times with TBST. The peroxidase substrate o-phenylene diamine (2.5 mg/ml) and 0.15% H_2O_2 were added to develop the color. The reaction was stopped with an equal volume of 4.5 N H_2SO_4 after incubation at room temperature for 10 minutes. The optical density of the stopped reaction mixture was measured with a micro plate reader

(Molecular Design) at 490 nm. Results are shown in FIG. 10.

8.2. RESULTS

8.2.1. THE EXPRESSION AND CHARACTERIZATION OF THE ECTODOMAIN OF gp41

As a step toward understanding the roles of the two helical regions in gp41 structure and function, the ectodomain of gp41 was expressed as a maltose binding fusion protein (M41) (FIG. 7). The fusogenic peptide sequence at the N-terminal of gp41 was omitted from this recombinant protein and its derivatives to improve solubility. The maltose binding protein facilitated purification of the fusion proteins under relatively mild, non-denaturing conditions. Because the M41 soluble recombinant gp41 was not glycosylated, lacked several regions of the transmembrane protein (i.e., the fusion peptide, the membrane spanning, and the cytoplasmic domains), and was expressed in the absence of gp120, it was not expected to precisely reflect the structure of native gp41 on HIV-1 virions. Nevertheless, purified M41 folded in a manner that preserved certain discontinuous epitopes as evidenced by reactivity with human monoclonal antibodies, 98-6, 126-6, and 50-69, previously shown to bind conformational epitopes on native gp41 expressed in eukaryotic cells (Xu et al., 1991, J. Virol. 65: 4832-4838; Chen, 1994, J. Virol. 68:2002-2010). Thus, at least certain regions of native gp41 defined by these antibodies appear to be reproduced in the recombinant fusion protein M41. Furthermore, M41 reacted with a human recombinant Fab (Fab-d) that recognizes a conformational epitope on gp41 and binds HIV-1 virions as well as HIV-1 infected cells but not uninfected cells as analyzed by FACS. Deletion of either helix motif, i.e., DP107 or DP178, of the M41 fusion protein

eliminated reactivity with Fab-d. These results indicate that both helical regions, separated by 60 amino acids in the primary sequence, are required to maintain the Fab-d epitope.

8.2.2. ANTI-HIV ACTIVITY OF THE RECOMBINANT ECTODOMAIN OF GP41

The wild type M41 fusion protein was tested for anti-HIV-1 activity. As explained, supra, synthetic peptides corresponding to the leucine zipper (DP107) and the C-terminal putative helix (DP178) show potent anti-HIV activity. Despite inclusion of both these regions, the recombinant M41 protein did not affect HIV-1 induced membrane fusion at concentrations as high as 50 μM (Table XXV, below).

TABLE XXV

DISRUPTION OF THE LEUCINE ZIPPER OF GP41 FREES THE ANTI-HIV MOTIF

	DP107	DP178	M41	M41-P	M41-PΔ178
Cell fusion (IC_{90})	1 μM	1 nM	>50 μM	83 nM	>50 μM
Fab-D binding (k_D)	-	-	$3.5x10^{-9}$	$2.5x10^{-8}$	-
HIV infectivity (IC_{90})	1 μM	80 nM	>16 μM	66 nM	>8 μM

1 The affinity constants of Fab-d binding to the fusion proteins were determined using a protocol described by B. Friguet et al., 1985, J. Immunol. Method. 77:305-319.

- = No detectable binding of Fab-d to the fusion proteins.

Antiviral Infectivity Assays. 20 μl of serially diluted virus stock was incubated for 60 minutes at ambient temperature with 20 μl of the indicated

concentration of purified recombinant fusion protein in RPMI 1640 containing 10% fetal bovine serum and antibiotics in a 96-well microtiter plate. 20 μl of CEM4 cells at 6 x 10^5 cells/ml were added to each well, and cultures were incubated at 37°C in a humidified CO_2 incubator. Cells were cultured for 9 days by the addition of fresh medium every 2 to 3 days. On days 5, 7, and 9 postinfection, supernatant samples were assayed for reverse transcriptase (RT) activity, as described below, to monitor viral replication. The 50% tissue culture infectious dose ($TCID_{50}$) was calculated for each condition according to the formula of Reed & Muench, 1937, Am. J. Hyg. 27:493-497. RT activity was determined by a modification of the published methods of Goff et al., 1981, J. Virol. 38:239-248 and Willey et al., 1988, J. Virol. 62:139-147 as described in Chen et al., 1993, AIDS Res. Human Retroviruses 9:1079-1086.

Surprisingly, a single amino acid substitution, proline in place of isoleucine in the middle of the leucine zipper motif, yielded a fusion protein (M41-P) which did exhibit antiviral activity (Table XXV and Fig. 8). As seen in Table XXV, M41-P blocked syncytia formation by 90% at approximately 85 nM and neutralized HIV-1_{mn} infection by 90% at approximately 70 nM concentrations. The anti-HIV-1 activity of M41-P appeared to be mediated by the C-terminal helical sequence since deletion of that region from M41-P yielded an inactive fusion protein, M41-PΔ178 (Table XXV). This interpretation was reinforced by experiments demonstrating that a truncated fusion protein lacking the DP178 sequence, M41Δ178, abrogated the potent anti-fusion activity of the DP178 peptide in a concentration-dependent manner (FIG. 9). The same truncated fusion protein containing the proline mutation disrupting the leucine zipper, M41-PΔ178, was not active in similar competition experiments (FIG. 9). The results indicate that the DP178 peptide associates with a second site on gp41 whose interactive structure is dependent on a wild type leucine zipper sequence. A similar interaction may occur within the wild type fusion protein, M41, and act to form an intramolecular clasp which sequesters

the DP178 region, making it unavailable for anti-viral activity.

A specific association between these two domains is also indicated by other human monoclonal Fab-d studies. For example, Fab-d failed to bind either the DP178 peptide or the fusion protein M41Δ178, but its epitope was reconstituted by simply mixing these two reagents together (FIG. 10). Again, the proline mutation in the leucine zipper domain of the fusion protein, M41-PΔ178, failed to reconstitute the epitope in similar mixing experiments.

9. EXAMPLE: METHOD FOR COMPUTER-ASSISTED IDENTIFICATION OF DP107-LIKE AND DP178-LIKE SEQUENCES

A number of known coiled-coil sequences have been well described in the literature and contain heptad repeat positioning for each amino acid. Coiled-coil nomenclature labels each of seven amino acids of a heptad repeat A through G, with amino acids A and D tending to be hydrophobic positions. Amino acids E and G tend to be charged. These four positions (A, D, E, and G) form the amphipathic backbone structure of a monomeric alpha-helix. The backbones of two or more amphipathic helices interact with each other to form di-, tri-, tetrameric, etc., coiled-coil structures. In order to begin to design computer search motifs, a series of well characterized coiled coils were chosen including yeast transcription factor GCN4, Influenza Virus hemagglutinin loop 36, and human proto-oncogenes c-Myc, c-Fos, and c-Jun. For each peptide sequence, a strict homology for the A and D positions, and a list of the amino acids which could be excluded for the B, C, E, F, and G positions (because they are not observed in these positions) was determined. Motifs were tailored to the DP107 and DP178 sequences by

deducing the most likely possibilities for heptad positioning of the amino acids of HIV-1 Bru DP-107, which is known to have coiled-coil structure, and HIV-1 Bru DP178, which is still structurally undefined. The analysis of each of the sequences is contained in FIG. 12. For example, the motif for GCN4 was designed as follows:

1. The only amino acids (using standard single letter amino acid codes) found in the A or D positions of GCN4 were [LMNV].
2. All amino acids were found at B, C, E, F, and G positions except {CFGIMPTW}.
3. The PESEARCH motif would, therefore, be written as follows:

[LMNV]-{CFGIMPTW}(2)-[LMNV]-{CFGIMPTW}(3)-
[LMNV]-{CFGIMPTW}(2)-[LMNV]-{CFGIMPTW}(3)-
[LMNV]-{CFGIMPTW}(2)-[LMNV]-{CFGIMPTW}(3)-
[LMNV]-{CFGIMPTW}(2)-[LMNV]-{CFGIMPTW}(3)

Translating or reading the motif: "at the first A position either L, M, N, or V must occur; at positions B and C (the next two positions) accept everything except C, F, G, I, M, P, T, or W; at the D position either L, M, N, or V must occur; at positions E, F, and G (the next 3 positions) accept everything except C, F, G, I, M, P, T, or W." This statement is contained four times in a 28-mer motif and five times in a 35-mer motif. The basic motif key then would be: [LMNV]-{CFGIMPTW}. The motif keys for the remaining well described coiled-coil sequences are summarized in FIG. 12.

The motif design for DP107 and DP178 was slightly different than the 28-mer model sequences described above due to the fact that heptad repeat positions are not defined and the peptides are both longer than 28 residues. FIG. 13 illustrates several possible

sequence alignments for both DP107 and DP178 and also includes motif designs based on 28-mer, 35-mer, and full-length peptides. Notice that only slight differences occur in the motifs as the peptides are lengthened. Generally, lengthening the base peptide results in a less stringent motif. This is very useful in broadening the possibilities for identifying DP107-or DP-178-like primary amino acid sequences referred to in this document as "hits".

In addition to making highly specific motifs for each type peptide sequence to be searched, it is also possible to make "hybrid" motifs. These motifs are made by "crossing" two or more very stringent motifs to make a new search algorithm which will find not only both "parent" motif sequences but also any peptide sequences which have similarities to one, the other, or both "parents". For example, in FIG. 14 the "parent" sequence of GCN4 is crossed with each of the possible "parent" motifs of DP-107. Now the hybrid motif must contain all of the amino acids found in the A and D positions of both parents, and exclude all of the amino acids not found in either parent at the other positions. The resulting hybrid from crossing GCN4 or [LMNV]{CFGIMPTW} and DP107 (28-mer with the first L in the D position) or [ILQT]{CDFIMPST}, is [ILMNQTV]{CFIMPT}. Notice that now only two basic hybrid motifs exist which cover both framing possibilities, as well as all peptide lengths of the parent DP-107 molecule. FIG. 15 represents the "hybridizations" of GCN4 with DP-178. FIG. 16 represents the "hybridizations" of DP107 and DP178. It is important to keep in mind that the represented motifs, both parent and hybrid, are motif keys and not the depiction of the full-length motif needed to actually do the computer search.

Hybridizations can be performed on any combination of two or more motifs. FIG. 17 summarizes several three-motif hybridizations including GCN4, DP107 (both frames), and DP178 (also both frames). Notice that the resulting motifs are now becoming much more similar to each other. In fact, the first and third hybrid motifs are actually subsets of the second and fourth hybrid motifs respectively. This means that the first and third hybrid motifs are slightly more stringent than the second and fourth. It should also be noted that with only minor changes in these four motifs, or by hybridizing them, a single motif could be obtained which would find all of the sequences. However, it should be remembered that stringency is also reduced. Finally, the most broad-spectrum and least-stringent hybrid motif is described in FIG. 18 which summarizes the hybridization of GCN4, DP107 (both frames), DP178 (both frames), c-Fos, c-Jun, c-Myc, and Flu loop 36.

A special set of motifs was designed based on the fact that DP-178 is located only approximately ten amino acids upstream of the transmembrane spanning region of gp41 and just C-terminal to a proline which separates DP107 and DP178. It has been postulated that DP178 may be an amphipathic helix when membrane associated, and that the proline might aid in the initiation of the helix formation. The same arrangement was observed in Respiratory Syncytial Virus; however, the DP178-like region in this virus also had a leucine zipper just C-terminal to the proline. Therefore, N-terminal proline-leucine zipper motifs were designed to analyze whether any other viruses might contain this same pattern. The motifs are summarized in FIG. 19.

The PC/Gene protein database contains 5879 viral amino acid sequences (library file PVIRUSES; CD-ROM

release 11.0). Of these, 1092 are viral enveloped or glycoprotein sequences (library file PVIRUSE1). Tables V through XIV contain lists of protein sequence names and motif hit locations for all the motifs searched.

10. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF DP107 AND DP178-LIKE SEQUENCES IN HUMAN IMMUNODEFICIENCY VIRUS

FIG. 20 represents search results for HIV-1 BRU isolate gp41 (PC/Gene protein sequence PENV_HV1BR). Notice that the hybrid motif which crosses DP-107 and DP-178 (named 107x178x4; the same motif as found in FIG. 16 found three hits including amino acids 550-599, 636-688, and 796-823. These areas include DP-107 plus eight N-terminal and four C-terminal amino acids; DP178 plus seven N-terminal and ten C-terminal amino acids; and an area inside the transmembrane region (cytoplasmic). FIG. 20 also contains the results obtained from searching with the motif named ALLMOTI5, for which the key is found in FIG. 17 ({CDGHP}{CFP}x5). This motif also found three hits including DP107 (amino acids 510-599), DP178 (615-717), and a cytoplasmic region (772-841). These hits overlap the hits found by the motif 107x178x4 with considerable additional sequences on both the amino and carboxy termini. This is not surprising in that 107x178x4 is a subset of the ALLMOTI5 hybrid motif. Importantly, even though the stringency of ALLMOTI5 is considerably less than 107x178x4, it still selectively identifies the DP107 and DP178 regions of gp41 shown to contain sequences for inhibitory peptides of HIV-1. The results of these two motif searches are summarized in Table V under the PC/Gene protein sequence name PENV HV1BR. The proline-leucine zipper motifs also gave several hits in HIV-1 BRU including 503-525 which is

at the very C-terminus of gp120, just upstream of the cleavage site (P7LZIPC and P12LZIPC); and 735-768 in the cytoplasmic domain of gp41 (P23LZIPC). These results are found in Tables VIII, IX, and X under the same sequence name as mentioned above. Notice that the only area of HIV-1 BRU which is predicted by the Lupas algorithm to contain a coiled-coil region, is from amino acids 635-670. This begins eight amino acids N-terminal to the start and ends eight amino acids N-terminal to the end of DP178. DP107, despite the fact that it is a known coiled coil, is not predicted to contain a coiled-coil region using the Lupas method.

11. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF DP107-LIKE AND DP178-LIKE SEQUENCES IN HUMAN RESPIRATORY SYNCYTIAL VIRUS

FIG. 21 represents search results for Human Respiratory Syncytial Virus (RSV; Strain A2) fusion glycoprotein F1 (PC/Gene protein sequence name PVGLF_HRSVA). Motif 107x178x4 finds three hits including amino acids 152-202, 213-243, and 488-515. The arrangement of these hits is similar to what is found in HIV-1 except that the motif finds two regions with similarities to DP-178, one just downstream of what would be called the DP107 region or amino acids 213-243, and one just upstream of the transmembrane region (also similar to DP178) or amino acids 488-515. Motif ALLMOTI5 also finds three areas including amino acids 116-202, 267-302, and 506-549. The proline-leucine zipper motifs also gave several hits including amino acids 205-221 and 265-287 (P1LZIPC 265-280, P12LZIPC), and 484-513 (P7LZIPC and P12LZIPC 484-506, P23LZIPC). Notice that the PLZIP motifs also identify regions which share location similarities with DP-178 of HIV-1.

12. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF DP107-LIKE AND DP178-LIKE SEQUENCES IN SIMIAN IMMUNODEFICIENCY VIRUS

Motif hits for Simian immunodeficiency Virus gp41 (AGM3 isolate; PC/Gene protein sequence name PENV_SIVAG) are shown in FIG. 22. Motif 107x178x4 finds three hits including amino acids 566-593, 597-624, and 703-730. The first two hits only have three amino acids between them and could probably be combined into one hit from 566-624 which would represent a DP107-like hit. Amino acids 703 to 730 would then represent a DP178-like hit. ALLMOTI5 also finds three hits including amino acids 556-628 (DP107-like), 651-699 (DP178-like), and 808-852 which represents the transmembrane spanning region. SIV also has one region from 655-692 with a high propensity to form a coiled coil as predicted by the Lupas algorithm. Both 107x178x4 and ALLMOTI5 motifs find the same region. SIV does not have any PLZIP motif hits in gp41.

The identification of DP178/DP107 analogs for a second SIV isolate (MM251) is demonstrated in the Example presented, below, in Section 19.

13. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF DP107-LIKE AND DP178 LIKE SEQUENCES IN CANINE DISTEMPER VIRUS

Canine Distemper Virus (strain Onderstepoort) fusion glycoprotein F1 (PC/Gene Protein sequence name PVGLF_CDVO) has regions similar to Human RSV which are predicted to be DP107-like and DP178-like (FIG. 23). Motif 107x178x4 highlights one area just C-terminal to the fusion peptide at amino acids 252-293. Amino acids 252-286 are also predicted to be coiled coil using the Lupas algorithm. Almost 100 amino acids C-terminal to the first region is a DP178-like area at residues 340-367. ALLMOTI5 highlights three areas of

interest including: amino acids 228-297, which completely overlaps both the Lupas prediction and the DP107-like 107x178x4 hit; residues 340-381, which overlaps the second 107x178x4 hit; and amino acids 568-602, which is DP178-like in that it is located just N-terminal to the transmembrane region. It also overlaps another region (residues 570-602) predicted by the Lupas method to have a high propensity to form a coiled coil. Several PLZIP motifs successfully identified areas of interest including P6 and P12LZIPC which highlight residues 336-357 and 336-361 respectively; P1 and P12LZIPC which find residues 398-414; and P12 and P23LZIPC which find residues 562-589 and 562-592 respectively.

14. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF DP107-LIKE AND DP178-LIKE SEQUENCES IN NEWCASTLE DISEASE VIRUS

FIG. 24 shows the motif hits found in Newcastle Disease Virus (strain Australia-Victoria/32; PC Gene protein sequence name PVGLF_NDVA). Motif 107x178x4 finds two areas including a DP107-like hit at amino acids 151-178 and a DP178-like hit at residues 426-512. ALLMOTI5 finds three areas including residues 117-182, 231-272, and 426-512. The hits from 426-512 include a region which is predicted by the Lupas method to have a high coiled-coil propensity (460-503). The PLZIP motifs identify only one region of interest at amino acids 273-289 (P1 and 12LZIPC).

15. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF DP107-LIKE AND DP178-LIKE SEQUENCES IN HUMAN PARAINFLUENZA VIRUS

Both motifs 107x178x4 and ALLMOTI5 exhibit DP107-like hits in the same region, 115-182 and 117-182 respectively, of Human Parainfluenza Virus (strain NIH 47885; PC/Gene protein sequence name PVGLF_p13H4;

(FIG. 25). In addition, the two motifs have a DP178-like hit just slightly C-terminal at amino acids 207-241. Both motifs also have DP178-like hits nearer the transmembrane region including amino acids 457-497 and 462-512 respectively. Several PLZIP motif hits are also observed including 283-303 (P5LZIPC), 283-310 (P12LZIPC), 453-474 (P6LZIPC), and 453-481 (P23LZIPC). The Lupas algorithm predicts that amino acids 122-176 may have a propensity to form a coiled-coil.

16. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF DP107-LIKE AND DP178-LIKE SEQUENCES OF INFLUENZA A VIRUS

FIG. 26 illustrates the Lupas prediction for a coiled coil in Influenza A Virus (strain A/Aichi/2/68) at residues 379-436, as well as the motif hits for 107x178x4 at amino acids 387-453, and for ALLMOTI5 at residues 380-456. Residues 383-471 (38-125 of HA2) were shown by Carr and Kim to be an extended coiled coil when under acidic pH (Carr and Kim, 1993, Cell 73: 823-832). The Lupas algorithm predicts a coiled-coil at residues 379-436. All three methods successfully predicted the region shown to actually have coiled-coil structure; however, ALLMOTI5 predicted the greatest portion of the 88 residue stretch.

17. EXAMPLE: POTENTIAL RESPIRATORY SYNCYTIAL VIRUS DP178/DP107 ANALOGS: CD AND ANTIVIRAL CHARACTERIZATION

In the Example presented herein, respiratory syncytial virus (RSV) peptides identified by utilizing the computer-assisted search motifs described in the Examples presented in Sections 9 and 11, above, were tested for anti-RSV activity. Additionally, circular dichroism (CD) structural analyses were conducted on the peptides, as discussed below. It is demonstrated

that several of the identified peptides exhibit potent antiviral capability. Additionally, it is shown that several of these peptides exhibit a substantial helical character.

17.1 MATERIALS AND METHODS

Structural analyses: The CD spectra were measured in a 10mM sodium phosphate, 150mM sodium chloride, pH 7.0, buffer at approximately 10mM concentrations, using a 1 cm pathlength cell on a Jobin/Yvon Autodichrograph Mark V CD spectrophotometer. Peptides were synthesized according to the methods described, above, in Section 6.1. Peptide concentrations were determined from A_{280} using Edlehoch's method (1967, Biochemistry 6:1948).

Anti-RSV antiviral activity assays: The assay utilized herein tested the ability of the peptides to disrupt the ability of HEp2 cells acutely infected with RSV (i.e., cells which are infected with a multiplicity of infection of greater than 2) to fuse and cause syncytial formation on a monolayer of uninfected an uninfected line of Hep-2 cells. The lower the observed level of fusion, the greater the antiviral activity of the peptide was determined to be.

Uninfected confluent monolayers of Hep-2 cells were grown in microtiter wells in 3% EMEM (Eagle Minimum Essential Medium w/o L-glutamine [Bio Whittaker Cat. No. 12-125F], with fetal bovine serum [FBS; which had been heat inactivated for 30 minutes at 56°C; Bio Whittaker Cat. No. 14-501F) supplemented at 3%, antibiotics (penicillin/streptomycin; Bio Whittaker Cat. No. 17-602E) added at 1%, and glutamine added at 1%.

To prepare Hep2 cells for addition to uninfected cells, cultures of acutely infected Hep2 cells were

washed with DPBS (Dulbecco's Phosphate Buffered Saline w/o calcium or magnesium; Bio Whittaker Cat. No. 17-512F) and cell monolayers were removed with Versene (1:5000; Gibco Life Technologies Cat. No. 15040-017). The cells were spun 10 minutes and resuspended in 3% FBS. Cell counts were performed using a hemacytometer. Persistent cells were added to the uninfected Hep-2 cells.

The antiviral assay was conducted by, first, removing all media from the wells containing uninfected Hep-2 cells, then adding peptides (at the dilutions described below) in 3% EMEM, and 100 acutely RSV-infected Hep2 cells per well. Wells were then incubated at 37°C for 48 hours.

After incubation, cells in control wells were checked for fusion centers, media was removed from the wells, followed by addition, to each well, of either Crystal Violet stain or XTT. With respect to Crystal Violet, approximately 50µl 0.25% Crystal Violet stain in methanol were added to each well. The wells were rinsed immediately, to remove excess stain, and were allowed to dry. The number of syncytia per well were then counted, using a dissecting microscope.

With respect to XTT (2,3-bis[2-Methoxy-4-nitro-5-sulfophenyl]-2H-tetrazolium-5-carboxyanilide inner salt), 50µl XTT (1mg/ml in RPMI buffered with 100mM HEPES, pH 7.2-7.4, plus 5% DMSO) were added to each well. The $OD_{450/690}$ was measured (after blanking against growth medium without cells or reagents, and against reagents) according to standard procedures.

Peptides: The peptides characterized in the study presented herein were:

1) peptides T-142 to T-155 and T-575, as shown in FIG. 27A, and peptides T-22 to T-27, T-68, T-334 and T-371 to T-375 and T-575, as shown in FIG. 27B;

2) peptides T-120 to T-141 and T-576, as shown in FIG. 27B, and peptides T-12, T-13, T-15, T-19, T-28 to T-30, T-66, T-69, T-70 and T-576, as shown in FIG. 27D; and

3) peptides T-67 and T-104 to T-119 and T-384, as shown in FIG. 28A, and peptides T-71, T-613 to T-617, T-662 to T-676 and T-730, as shown in FIG. 28B.

The peptides of group 1 represent portions of the RSV F2 protein DP178/107-like region. The peptides of group 2 represent portions of the RSV F1 protein DP107-like region. The peptides of groups 3 represent portions of the RSV F1 protein DP178-like region.

Each peptide was tested at 2-fold serial dilutions ranging from 100μg/ml to approximately 100ng/ml. For each of the assays, a well containing no peptide was also used. The IC_{50} data for each peptide represents the average of several experiments conducted utilizing that peptide.

17.2 RESULTS

The data summarized in FIGS. 27A-B and 28A-B represent antiviral and structural information obtained from peptides derived from the RSV F2 DP178/DP107-like F2 region (FIG. 27A-B), the RSV F1 DP-107-like region (FIG. 27C-D) and the RSV DP178-like F2 region (FIG. 28A-B).

As shown in FIGS. 27A-D, a number of the RSV DP178/DP107-like peptides exhibited a detectable level of antiviral activity. Peptides from the RSV DP178/DP107-like F2 region (FIG. 27A-B), for example, T-142 to T-145 and T-334 purfied peptides, exhibited detectable levels of antiviral activity, as evidenced by their IC_{50} values. Further, a number of RSV F1 DP107-like peptides (FIG. 27C-D) exhibited a sizable level of antiviral activity as purified peptides, including, for example, peptides T-124 to T-127, T-

131, T-135 and T-137 to T-139, as demonstrated by their low IC_{50} values. In addition, CD analysis FIG. 27A, 27C) reveals that many of the peptides exhibit some detectable level of helical structure.

The results summarized in FIG. 28A-B demonstrate that a number of DP178-like purified peptides exhibit a range of potent anti-viral activity. These peptides include, for example, T-67, T-104, T-105 and T-107 to T-119, as listed in FIG. 28A, and T-665 to T-669 and T-671 to T-673, as listed in FIG. 28B. In addition, some of the DP178-like peptides exhibited some level of helicity.

Thus, the computer assisted searches described, hereinabove, successfully identified viral peptide domains that represent highly promising anti-RSV antiviral compounds.

18. EXAMPLE: POTENTIAL HUMAN PARAINFLUENZA VIRUS TYPE 3 DP178/DP107 ANALOGS: CD AND ANTIVIRAL CHARACTERIZATION

In the Example presented herein, human parainfluenza virus type 3 (HPIV3) peptides identified by utilizing the computer-assisted search motifs described in the Examples presented in Sections 9 and 15, above, were tested for anti-HPIV3 activity. Additionally, circular dichroism (CD) structural analyses were conducted on the peptides, as discussed below. It is demonstrated that several of the identified peptides exhibit potent antiviral capability. Additionally, it is shown that several of these peptides exhibit a substantial helical character.

18.1 MATERIALS AND METHODS

Structural analyses: Structural analyses consisted of circular dichroism (CD) studies. The CD

spectra were measured in a 10mM sodium phosphate, 150mM sodium chloride, pH 7.0, buffer at approximately 10mM concentrations, using a 1 cm pathlength cell on a Jobin/Yvon Autodichrograph Mark V CD spectrophotometer. Peptide concentrations were determined from A_{280} using Edlehoch's method (1967, Biochemistry 6:1948).

Anti-HPIV3 antiviral activity assays: The assay utilized herein tested the ability of the peptides to disrupt the ability of Hep2 cells chronically infected with HPIV3 to fuse and cause syncytial formation on a monolayer of an uninfected line of CV-1W cells. The more potent the lower the observed level of fusion, the greater the antiviral activity of the peptide.

Uninfected confluent monolayers of CV-1W cells were grown in microtiter wells in 3% EMEM (Eagle Minimum Essential Medium w/o L-glutamine [Bio Whittaker Cat. No. 12-125F], with fetal bovine serum [FBS; which had been heat inactivated for 30 minutes at 56°C; Bio Whittaker Cat. No. 14-501F) supplemented at 3%, antibiotics/antimycotics (Gibco BRL Life Technologies Cat. No. 15040-017) added at 1%, and glutamine added at 1%.

To prepare Hep2 cells for addition to uninfected cells, cultures of chronically infected Hep2 cells were washed with DPBS (Dulbecco's Phosphate Buffered Saline w/o calcium or magnesium; Bio Whittaker Cat. No. 17-512F) and cell monolayers were removed with Versene (1:5000; Gibco Life Technologies Cat. No. 15040-017). The cells were spun 10 minutes and resuspended in 3% FBS. Cell counts were performed using a hemacytometer. Persistent cells were added to the uninfected CV-1W cells.

The antiviral assay was conducted by, first, removing all media from the wells containing uninfected CV-1W cells, then adding peptides (at the

dilutions described below) in 3% EMEM, and 500 chronically HPIV3-infected Hep2 cells per well. Wells were then incubated at 37°C for 24 hours.

On day 2, after cells in control wells were checked for fusion centers, media was removed from the wells, followed by addition, to each well, of approximately 50µl 0.25% Crystal Violet stain in methanol. Wells were rinsed immediately, to remove excess stain and were then allowed to dry. The number of syncytia per well were then counted, using a dissecting microscope.

Alternatively, instead of Crystal Violet analysis, cells were assayed with XTT, as described, avove, in Section 17.1.

Peptides: The peptides characterized in the study presented herein were:

1) Peptides 157 to 188, as shown in FIG. 29A, and peptides T-38 to T-40, T-42 to T-46 and T-582, as shown in FIG. 29B. These peptides are derived from the DP107 region of the HPIV3 F1 fusion protein (represented by HPF3 107, as shown in FIG. 29A); and

2) Peptides 189 to 210, as shown in FIG. 30A, and T-269, T-626, T-383 and T-577 to T-579, as shown in FIG. 30B. These peptides are primarily derived from the DP178 region of the HPIV3 F1 fusion protein (represented by HPF3 178, as shown in FIG. 30A). Peptide T-626 contains two mutated amino acid resides (represented by a shaded background). Additionally, peptide T-577 represents F1 amino acids 65-100, T-578 represents F1 amino acids 207-242 and T-579 represents F1 amino acids 273-309.

Each peptide was tested at 2-fold serial dilutions ranging from 500µg/ml to approximately

500ng/ml. For each of the assays, a well containing no peptide was also used.

18.2 RESULTS

The data summarized in FIGS. 29A-B and 30A-B represent antiviral and structural information obtained from peptides derived from the HPIV3 fusion protein DP107-like region (FIG. 29A-B) and the HPIV3 fusion protein DP178-like region (FIG. 30A-B).

As shown in FIG. 29A-B, a number of the HPIV3 DP107-like peptides exhibited potent levels of antiviral activity. These peptides include, for example, peptides T-40, T-172 to T-175, T-178, T-184 and T-185.

The results summarized in FIG. 30A-B demonstrate that a number of the DP178-like peptides tested exhibit a range of anti-viral activity. These peptides include, for example, peptides 194 to 211, as evidenced by their low IC_{50} values. In fact, peptides 201 to 205 exhibit IC_{50} values in the nanogram/ml range. In addition, many of the DP178-like peptides exhibited some level of helicity.

Thus, the computer assisted searches described, hereinabove, have successfully identified viral peptide domains that represent highly promising anti-HPIV3 antiviral compounds.

19. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF DP178/DP107 ANALOGS IN SIMIAN IMMUNODEFICIENCY VIRUS

FIG. 31 represents search results for SIV isolate MM251 (PC/Gene® protein sequence PENV_SIVM2). Both 107x178x4 and ALLMOTI5 search motifs identified two regions with similarities to DP107 and/or DP178.

The peptide regions found by 107x178x4 were located at amino acid residues 156-215 and 277-289. The peptide regions found by ALLMOTI5 were located at

amino acid residues 156-219 and 245-286. Both motifs, therefore, identify similar regions.

Interestingly, the first SIV peptide region (i.e., from amino acid residue 156 to approximately amino acid residue 219) correlates with a DP107 region, while the second region identified (i.e., from approximately amino acid residue 245 to approximately amino acid residue 289) correlates with the DP178 region of HIV. In fact, an alignment of SIV isolate MM251 and HIV isolate BRU, followed by a selection of the best peptide matches for HIV DP107 and DP178, reveals that the best matches are found within the peptide regions identified by the 107x178x4 and ALLMOTI5 search motifs.

It should be noted that a potential coiled-coil region at amino acid residues 242-282 is predicted by the Lupas program. This is similar to the observation in HIV in which the coiled-coil is predicted by the Lupas program to be in the DP178 rather than in the DP107 region. It is possible, therefore, that SIV may be similar to HIV in that it may contain a coiled-coil structure in the DP107 region, despite such a structure being missed by the Lupas algorithm. Likewise, it may be that the region corresponding to a DP178 analog in SIV may exhibit an undefined structure, despite the Lupas program's prediction of a coiled-coil structure.

20. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF DP178/DP107 ANALOGS IN EPSTEIN-BARR VIRUS

The results presented herein describe the identification of DP178/DP107 analogs within two different Epstein-Barr Virus proteins. Epstein-Barr is a human herpes virus which is the causative agent of, for example, infectious mononucleosis (IM), and is also associated with nasopharyngeal carcinomas (NPC), Burkitt's lymphoma and other diseases. The virus predominantly exists in the latent form and is activated by a variety of stimuli.

FIG. 32 depicts the search motif results for the Epstein-Barr Virus (Strain B95-8; PC/Gene® protein sequence PVGLB_EBV) glycoprotein gp110 precursor (gp115). The 107x178x4 motif identified two regions of interest, namely the regions covered by amino acid residues 95-122 and 631-658. One PZIP region was identified at amino acid residue 732-752 which is most likely a cytoplasmic region of the protein. The Lupas algorithm predicts a coiled-coil structure for amino acids 657-684. No ALLMOTI5 regions were identified.

FIG. 33 depicts the search motif results for the Zebra (or EB1) trans-activator protein (BZLF1) of the above-identified Epstein-Barr virus. This protein is a transcription factor which represents the primary mediator of viral reactivation. It is a member of the b-ZIP family of transcription factors and shares significant homology with the basic DNA-binding and dimerization domains of the cellular oncogenes c-fos and C/EBP. The Zebra protein functions as a homodimer.

Search results domonstrate that the Zebra protein exhibits a single region which is predicted to be either of DP107 or DP178 similarity, and is found between the known DNA binding and dimerization regions of the protein. Specifically, this region is located

at amino acid residues 193-220, as shown in FIG. 33. The Lupas program predicted no coiled-coil regions.

21. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF DP178/DP107 ANALOGS IN MEASLES VIRUS

FIG. 34 illustrates the motif search results for the fusion protein F1 of measles virus, strain Edmonston (PC Gene® protein sequence PVGLF_MEASE), successfully identifying DP178/DP107 analogs.

The 107x178x4 motif identifies a single region at amino acid residues 228-262. The ALLMOTI5 search motif identifies three regions, including amino acid residues 116-184, 228-269 and 452-500. Three regions containing proline residues followed by a leucine zipper-like sequence were found beginning at proline residues 214, 286 and 451.

The Lupas program identified two regions it predicted had potential for coiled-coil structure, which include amino acid residues 141-172 and 444-483.

22. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF DP178/DP107 ANALOGS IN HEPATITIS B VIRUS

FIG. 35 depicts the results of a PZIP motif search conducted on the Hepatitis B virus subtype AYW. Two regions of interest within the major surface antigen precursor S protein were identified. The first lies just C-terminal to the proposed fusion peptide of the major surface antigen (Hbs) which is found at amino acid residues 174-191. The second region is located at amino acid residues 233-267. The Lupas program predicts no coiled-coil repeat regions.

In order to test the potential anti-HBV antiviral activity of these D178/DP107 analog regions, peptides derived from area around the analog regions are synthesized, as shown in FIG. 52A-B. These peptides represent one amino acid peptide "walks" through the

putative DP178/DP107 analog regions. The peptides are synthesized according to standard Fmoc chemistry on Rinkamide MBHA resins to provide for carboxy terminal blockade (Chang, C.D. and Meinhofer, J., 1978, Int. J. Pept. Protein Res. 11:246-249; Fields, G.B. and Noble, R.L., 1990, Int. J. Pept. Protein Res. 35:161-214). Follwing complete synthesis, the peptide amino-terminus is blocked through automated acetylation and the peptide is cleaved with trifluoroacetic acid (TFA) and the appropriate scavengers (King, D.S. et al., 1990, Int. J. Pept. Res. 36:255-266). After cleavage, the peptide is precipitated with ether and dried under vacuum for 24 hours.

The anti-HBV activity of the peptides is tested by utilizing standard assays to determine the test peptide concentration required to cause an acceptable (e.g., 90%) decrease in the amount of viral progeny formed by cells exposed to an HBV viral inoculum. Candidate antivial peptides are further characterized in model systems such as wood chuck tissue culture and animal sytems, prior to testing on humans.

23. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF DP178/DP107 ANALOGS IN SIMIAN MASON-PFIZER MONKEY VIRUS

The results depicted herein illustrate the results of search motifs conducted on the Simian Mason-Pfizer monkey virus. The motifs reveal DP178/DP107 analogs within the enveloped (TM) protein GP20, as shown in FIG. 36.

The 107x178x4 motifs identifies a region at amino acid residues 422-470. The ALLMOTI5 finds a region at amino acid residues 408-474. The Lupas program predicted a coiled-coil structure a amino acids 424-459.

24. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF DP178/DP107 ANALOGS IN BACTERIAL PROTEINS

The results presented herein demonstrate the identification of DP178/DP107 analogs corresponding to sequences present in proteins of a variety of bacterial species.

FIG. 37 depicts the search motif results for the Pseudomonas aeruginosa fimbrial protein (Pilin). Two regions were identified by motifs 107x178x4 and ALLMOTI5. The regions located at amino acid residues 30-67 and 80-144 were identified by the 107x178x4 motif. The regions at amino acid residues 30-68 and 80-125 were identified by the ALLMOTI5.

FIG. 38 depicts the search motif results for the Pseudomonas gonorrhoeae fimbrial protein (Pilin). A single region was identified by both the 107x178x4 and the ALLMOTI5 motifs. The region located at amino acid residues 66-97 was identified by the 107x178x4 motif. The region located at amino acid residues 66-125 were identified by the ALLMOTI5 search motif. No coiled-coil regions were predicted by the Lupas program.

FIG. 39 depicts the search motif results for the Hemophilus Influenza fimbrial protein (Pilin). A single region was identified by both the 107x178x4 and the ALLMOTI5 motifs. The region located at amino acid residues 102-129 was identified by the 107x178x4 motif. The region located at amino acid residues 102-148 were identified by the ALLMOTI5 search motif. No coiled-coil regions were predicted by the Lupas program.

FIG. 40 depicts the search motif results for the Staphylococcus aureus toxic shock syndrome Hemophilus Influenza fimbrial protein (Pilin). A single region was identified by both the 107x178x4 and the ALLMOTI5 motifs. The region located at amino acid residues 102-129 was identified by the 107x178x4 motif. The

region located at amino acid residues 102-148 were identified by the ALLMOTI5 search motif. No coiled-coil regions were predicted by the Lupas program.

FIG. 41 summarizes the motif search results conducted on the Staphylococcus aureus enterotoxin Type E protein. These results demonstrate the successful identification of DP178/DP107 analogs corresponding to peptide sequences within this protein, as described below.

The ALLMOTI5 motif identified a region at amino acid residues 22-27. The 107x178x4 motif identified two regions, with the first at amino acid residues 26-69 and the second at 88-115. A P12LZIPC motif search identified two regions, at amino acid residues 163-181 and 230-250.

The Lupas program predicted a region with a high propensity for coiling at amino acid residues 25-54. This sequence is completely contained within the first region identified by both ALLMOTI5 and 107x178x4 motifs.

FIG. 42 depicts the search motif results conducted on a second Staphylococcus aureus toxin, enterotoxin A. Two regions were identified by the ALLMOTI5 motif, at amino acid residues 22-70 and amino acid residues 164-205. The 107x178x4 motif found two regions, the first at amino acid residues 26-69 and the second at amino acid residues 165-192. A P23LZIPC motif search revealed a region at amino acid residues 216-250. No coiled-coil regions were predicted by the Lupas program.

FIG. 43 shows the motif search results conducted on the E. coli heat labile enterotoxin A protein, demonstrating that identification of DP178/DP107 analogs corresponding to peptides located within this protein. Two regions were identified by the ALLMOTI5 motif, with the first residing at amino acid residues

55-115, and the second residing at amino acid residues 216-254. The 107x178x4 motif identified a single region at amino acid residues 78-105. No coiled-coil regions were predicted by the Lupas program.

25. EXAMPLE: COMPUTER-ASSISTED IDENTIFICATION OF DP178/DP107 ANALOGS WITHIN VARIOUS HUMAN PROTEINS

The results presented herein demonstrate the identification of DP178/DP107 analogs corresponding to peptide sequences present within several different human proteins.

FIG. 44 illustrates the search motif results conducted on the human c-fos oncoprotein. The ALLMOTI5 motif identified a single region at amino acid residues 155-193. The 107x178x4 motif identified one region at amino acid residues 162-193. The Lupas program predicted a region at amino acid residues 148-201 to have coiled-coil structure.

FIG. 45 illustrates the search motif results conducted on the human lupus KU autoantigen protein P70. The ALLMOTI5 motif identified a single region at amino acid residues 229-280. The 107x178x4 motif identified one region at amino acid residues 235-292. The Lupas program predicted a region at amino acid residues 232-267 to have coiled-coil structure.

FIG. 46 illustrates the search motif results conducted on the human zinc finger protein 10. The ALLMOTI5 motif identified a single region at amino acid residues 29-81. The 107x178x4 motif identified one region at amino acid residues 29-56. A P23LZIPC motif search found a single region at amino acid residues 420-457. The Lupas program predicted no coiled-coil regions.

26. EXAMPLE: POTENTIAL MEASLES VIRUS DP178/DP107 ANALOGS: CD AND ANTIVIRAL CHARACTERIZATION

In the Example presented herein, measles (MeV) virus DP178-like peptides identified by utilizing the computer-assisted search motifs described in the Examples presented in Sections 9 and 21, above, are tested for anti-MeV activity. Additionally, circular dichroism (CD) structural analyses are conducted on the peptides, as discussed below. It is demonstrated that several of the identified peptides exhibit potent antiviral capability. Additionally, it is shown that none of the these peptides exhibit a substantial helical character.

26.1 MATERIALS AND METHODS

Structural analyses: The CD spectra were measured in a 10mM sodium phosphate, 150mM sodium chloride, pH 7.0, buffer at approximately 10mM concentrations, using a 1 cm pathlength cell on a Jobin/Yvon Autodichrograph Mark V CD spectrophotometer. Peptide concentrations were determined from A_{280} using Edlehoch's method (1967, Biochemistry 6:1948).

Anti-MeV antiviral activity syncytial reduction assay: The assay utilized herein tested the ability of the peptides to disrupt the ability of Vero cells acutely infected with MeV (i.e., cells which are infected with a multiplicity of infection of 2-3) to fuse and cause syncytial formation on a monolayer of an uninfected line of Vero cells. The more potent the peptide, the lower the observed level of fusion, the greater the antiviral activity of the peptide.

Uninfected confluent monolayers of Vero cells were grown in microtiter wells in 10% FBS EMEM (Eagle Minimum Essential Medium w/o L-glutamine [Bio Whittaker Cat. No. 12-125F], with fetal bovine serum

[FBS; which had been heat inactivated for 30 minutes at 56°C; Bio Whittaker Cat. No. 14-501F) supplemented at 10%, antibiotics/antimycotics (Bio Whittaker Cat. No. 17-602E) added at 1%, and glutamine added at 1%.

To prepare acutely infected Vero cells for addition to the uninfected cells, cultures of acutely infected Vero cells were washed twice with HBSS (Bio Whittaker Cat. No. 10-543F) and cell monolayers were removed with trypsin (Bio Whittaker Cat. No. 17-161E). Once cells detached, media was added, any remaining clumps of cells were dispersed, and hemacytometer cell counts were performed.

The antiviral assay was conducted by, first, removing all media from the wells containing uninfected Vero cells, then adding peptides (at the dilutions described below) in 10% FBS EMEM, and 50-100 acutely MeV-infected Vero cells per well. Wells were then incubated at 37°C for a maximum of 18 hours.

On day 2, after cells in control wells were checked for fusion centers, media was removed from the wells, followed by addition, to each well, of approximately 50µl 0.25% Crystal Violet stain in methanol. Wells were rinsed twice with water immediately, to remove excess stain and were then allowed to dry. The number of syncytia per well were then counted, using a dissecting microscope.

Anti-MeV antiviral activity plaque reduction assay: The assay utilized herein tested the ability of the peptides to disrupt the ability of MeV to infect permissive, uninfected Vero cells, leading to the infected cells' fusing with uninfected cells to produce syncytia. The lower the observed level of syncytial formation, the greater the antiviral activity of the peptide.

Monolayers of uninfected Vero cells are grown as described above.

The antiviral assay was conducted by, first, removing all media from the wells containing uninfected Vero cells, then adding peptides (at the dilutions described below) in 10% FBS EMEM, and MeV stock virus at a final concentration of 30 plaque forming units (PFU) per well. Wells were then incubated at 37°C for a minimum of 36 hours and a maximum of 48 hours.

On day 2, after cells in control wells were checked for fusion centers, media was removed from the wells, followed by addition, to each well, of approximately 50µl 0.25% Crystal Violet stain in methanol. Wells were rinsed twice with water immediately, to remove excess stain and were then allowed to dry. The number of syncytia per well were then counted, using a dissecting microscope.

Peptides: The peptides characterized in the study presented herein were peptides T-252A0 to T-256A0, T-257B1/C1, and T-258B1 to T-265B0, and T-266A0 to T-268A0, as shown in FIG. 47. These peptides represent a walk through the DP178-like region of the MeV fusion protein.

Each peptide was tested at 2-fold serial dilutions ranging from 100µg/ml to approximately 100ng/ml. For each of the assays, a well containing no peptide was also used.

26.2 RESULTS

The data summarized in FIG. 47 represents antiviral and structural information obtained via "peptide walks" through the DP178-like region of the MeV fusion protein.

As shown in FIG. 47, the MeV DP178-like peptides exhibited a range of antiviral activity as crude peptides. Several of these peptides were chosen for purification and further antiviral characterization.

The IC_{50} values for such peptides were determined, as shown in FIG. 47, and ranged from 1.35μg/ml (T-257B1/C1) to 0.072μg/ml (T-265B1). None of the DP178-like peptides showed, by CD analysis, a detectable level of helicity.

Thus, the computer assisted searches described, hereinabove, as in for example, the Example presented in Section 9, for example, successfully identified viral peptide domains that represent highly promising anti-MeV antiviral compounds.

27. EXAMPLE: POTENTIAL SIV DP178/DP107 ANALOGS: ANTIVIRAL CHARACTERIZATION

In the Example presented herein, simian immunodeficiency virus (SIV) DP178-like peptides identified by utilizing the computer-assisted search motifs described in the Examples presented in Sections 9, 12 and 19, above, were tested for anti-SIV activity. It is demonstrated that several of the identified peptides exhibit potent antiviral capability.

27.1 MATERIALS AND METHODS

Anti-SIV antiviral assays: The assay utilized herein were as reported in Langolis et al. (Langolis, A.J. et al., 1991, AIDS Research and Human Retroviruses 7:713-720).

Peptides: The peptides characterized in the study presented herein were peptides T-391 to T-400, as shown in FIG. 48. These peptides represent a walk through the DP178-like region of the SIV TM protein.

Each peptide was tested at 2-fold serial dilutions ranging from 100μg/ml to approximately 100ng/ml. For each of the assays, a well containing no peptide was also used.

27.2 RESULTS

The data summarized in FIG. 48 represents antiviral information obtained via "peptide walks" through the DP178-like region of the SIV TM protein.

As shown in FIG. 48, peptides T-391 to T-400 were tested and exhibited a potent antiviral activity as crude peptides.

Thus, the computer assisted searches described, hereinabove, as in for example, the Example presented in Section 9, for example, successfully identified viral peptide domains that represent highly promising anti-SIV antiviral compounds.

28. EXAMPLE: ANTI-VIRAL ACTIVITY OF DP107 AND DP-178 PEPTIDE TRUNCATIONS AND MUTATIONS

The Example presented in this Section represents a study of the antiviral activity of DP107 and DP178 truncations and mutations. It is demonstrated that several of these DP107 and DP178 modified peptides exhibit substantial antiviral activity.

28.1 MATERIALS AND METHODS

Anti-HIV assays: The antiviral assays performed were as those described, above, in Section 6.1. Assays utilized HIV-1/IIIb and/or HIV-2 NIHZ isolates. Purified peptides were used, unless otherwise noted in FIGS. 49A-C.

Peptides: The peptides characterized in the study presented herein were:

1) FIGS. 49A-C present peptides derived from the region around and containing the DP178 region of the HIV-1 BRU isolate. Specifically, this region spanned from gp41 amino acid residue 615 to amino acid residue 717. The peptides listed contain truncations of this region and/or mutations

which vary from the DP178 sequence amino acid sequence. Further, certain of the peptides have had amino- and/or carboxy-terminal groups either added or removed, as indicated in the figures; and

2) FIG. 50. presents peptides which represent truncations of DP107 and/or the gp41 region surrounding the DP107 amino acid sequence of HIV-1 BRU isolate. Certain of the peptides are unblocked or biotinylated, as indicated in the figure.

Blocked peptides contained an acyl N-terminus and an amido C-terminus.

28.2 RESULTS

Anti-HIV antiviral data was obtained with the group 1 DP178-derived peptides listed in FIG. 49A-C. The full-length, non-mutant DP178 peptide (referred to in FIG. 49A-C as T20) results shown are for 4ng/ml.

In FIG. 49A, a number of the DP178 truncations exhibited a high level of antiviral activity, as evidenced by their low IC_{50} values. These include, for example, test peptides T-50, T-624, T-636 to T-641, T-645 to T-650, T-652 to T-654 and T-656. T-50 represents a test peptide which contains a point mutation, as indicated by the residue's shaded background. The HIV-1-derived test peptides exhibited a distinct strain-specific antiviral activity, in that none of the peptides tested on the HIV-2 NIHZ isolate demonstrated appreciable antti-HIV-2 antiviral activity.

Among the peptides listed in FIG. 49B, are test peptides representing the amino (T-4) and carboxy (T-3) terminal halves of DP178 were tested. The amino terminal peptide was not active (IC_{50}>400μg/ml) whereas the carboxy terminal peptide showed potent antiviral

activity (IC_{50}= 3μg/ml). A number of additional test peptides also exhibited a high level of antiviral activity. These included, for example, T-61/T-102, T-217 to T-221, T-235, T-381, T-677, T-377, T-590, T-378, T-591, T-271 to T-272, T-611, T-222 to T-223 and T-60/T-224. Certain of the antiviral peptides contain point mutations and/or amino acid residue additions which vary from the DP178 amino acid sequence.

In FIG. 49C, point mutations and/or amino and/or carboxy-terminal modifications are introduced into the DP178 amino acid sequence itself. As shown in the figure, the majority of the test peptides listed exhibit potent antiviral activity.

Truncations of the DP107 peptide (referred to in IG. 50 as T21) were also produced and tested, as shown in FIG. 50. FIG. 50 also presents data concerning blocked and unblocked peptides which contain additional amino acid residues from the gp41 region in which the DP107 sequence resides. Most of these peptides showed antiviral activity, as evidenced by their low IC_{50} values.

Thus, the results presented in this Section demonstrate that not only do the full length DP107 and DP178 peptides exhibit potent antiviral activity, but truncations and/or mutant versions of these peptides can also possess substantial antiviral character.

29: EXAMPLE: POTENTIAL EPSTEIN-BARR DP178/DP107 ANALOGS: ANTIVIRAL CHARACTERIZATION

In the Example presented herein, peptides derived from the Epstein-Barr (EBV) DP-178/DP107 analog region of the Zebra protein identified, above, in the Example presented in Section 20 are described and tested for anti-EBV activity. It is demonstrated that among these peptides are ones which exhibit potential anti-viral activity.

29.1 MATERIALS AND METHODS

Electrophoretic Mobility Shift Assays (EMSA): Briefly, an EBV Zebra protein was synthesized utilizing SP6 RNA polymerase in vitro transcription and wheat germ in vitro translation systems (Promega Corporation recommendations; Butler, E.T. and Chamberlain, M.J., 1984, J. Biol. Chem. 257:5772; Pelham, H.R.B. and Jackson, R.J., 1976, Eur. J. Biochem. 67:247). The in vitro translated Zebra protein was then preincubated with increasing amounts of peptide up to 250 ng/ml prior to the addition of 10,000 to 20,000 c.p.m. of a ^{32}P-labeled Zebra response element DNA fragment. After a 20 minute incubation in the presence of the response element, the reaction was analyzed on a 4% non-denaturing polyacrylamide gel, followed by autoradiography, utilizing standard gel-shift procedures. The ability of a test peptide to prevent Zebra homodimer DNA binding was assayed by the peptide's ability to abolish the response element gel migration retardation characteristic of a protein-bound nucleic acid molecule.

Peptides: The peptides characterized in this study represent peptide walks through the region containing, and flanked on both sides by, the DP178/DP107 analog region identified in the Example presented in Section 20, above, and shown as shown in FIG. 33. Specifically, the peptide walks covered the region from amino acid residue 173 to amino acid residue 246 of the EBV Zebra protein.

Each of the tested peptides were analyzed at a range of concentrations, with 150ng/ml being the lowest concentration at which any of the peptides exerted an inhibitory effect.

29.2 RESULTS

The EBV Zebra protein transcription factor contains a DP178/DP107 analog region, as demonstrated in the Example presented, above, in Section 20. This protein appears to be the primary factor responsible for the reactivation capability of the virus. A method by which the DNA-binding function of the Zebra virus may be abolished may, therefore, represent an effective antiviral technique. In order to identify potential anti-EBV DP178/DP107 peptides, therefore, peptides derived from the region identified in Section 20, above, were tested for their ability to inhibit Zebra protein DNA binding.

The test peptides' ability to inhibit Zebra protein DNA binding was assayed via the EMSA assays described, above, in Section 28.1. The data summarized in FIG. 51A-B presents the results of EMSA assays of the listed EBV test peptides. These peptides represent one amino acid "walks" through the region containing, and flanked on both sides by, the DP178/DP107 analog region identified in the Example presented in Section 20, above, and shown as shown in FIG. 33. As shown in FIG. 51A-B, the region from which these peptides are derived lies from EBV Zebra protein amino acid residue 173 to 246. A number of the test peptides which were assayed exhibited an ability to inhibit Zebra protein homodimer DNA binding, including 439, 441, 444 and 445.

Those peptides which exhibit an ability to inhibit Zebra protein DNA binding represent potential anti-EBV antiviral compounds whose ability to inhibit EBV infection can be further characterized.

The present invention is not to be limited in scope by the specific embodiments described which are intended as single illustrations of individual aspects

of the invention, and functionally equivalent methods and components are within the scope of the invention. Indeed, various modifications of the invention, in addition to those shown and described herein will become apparent to those skilled in the art from the foregoing description and accompanying drawings. Such modifications are intended to fall within the scope of the appended claims.

WHAT IS CLAIMED IS:

1. An isolated peptide recognized by an ALLMOTI5, 107x178x4 or a PLZIP sequence search motif.

2. The peptide of Claim 1 wherein the peptide corresponds to a peptide present in a virus.

3. The peptide of Claim 2 in which the virus is HIV-1 or HIV-2.

4. The peptide of Claim 2 in which the virus is a respiratory syncytial virus.

5. The peptide of Claim 2 in which the virus is a human parainfluenza virus.

6. The peptide of Claim 2 in which the virus is an influenza virus.

7. The peptide of Claim 2 in which the virus is a hepatitis B virus.

8. The peptide of Claim 2 wherein the virus is an Epstein-Barr virus.

9. A method for the inhibition of transmission of a virus to a cell, comprising contacting the cell with an effective concentration of a peptide recognized by an ALLMOTI5, 107x178x4 or a PLZIP sequence search motif for an effective period of time so that no infection of the cell by the virus occurs.

10. The method of Claim 9 wherein the virus is HIV-1 or HIV-2.

11. The method of Claim 9 wherein the virus is a respiratory syncytial virus.

12. The method of Claim 9 wherein the virus is a human parainfluenza virus.

13. The method of Claim 9 wherein the virus is an influenza virus.

14. The method of Claim 9 in which the virus is a hepatitis B virus.

15. The method of Claim 9 wherein the virus is an Epstein-Barr virus.

HIV1LAI (DP-178; SEQ ID:1) YTSLIHSLIEESQNQQEKNEQELLELDKWASLWNWF

HIV1SF2 (DP-185; SEQ ID:3) YTNTIYNLLEESQNQQEKNEQELLELDKWASLWNWF

HIV1RF (SEQ ID:4) YTGIIYNLLEESQNQQEKNEQELLELDKWANLWNWF

HIV1MN (SEQ ID:5) YTSLIYSLLEKSQTQQEKNEQELLELDKWASLWNWF

HIV2ROD (SEQ ID:6) LEANISKSLEQAQIQQEKNMYELQKLNSWDIFGNWF

HIV2NIHZ (SEQ ID:7) LEANISQSLEQAQIQQEKNMYELQKLNSWDVFTNWL

DP180 (SEQ ID:2) SSESFTLLEQWNNWKLQLAEQWLEQINEKHYLEDIS

DP118 (SEQ ID:10) QQLLDVVKRQQEMLRLTVWGTKNLQARVTAIEKYLKDQ

DP125 (SEQ ID:8) CGGNNLLRAIEAQQHLLQLTVWGIKQLQARILAVERYLKDQ

DP116 (SEQ ID:9) LQARILAVERYLKDQQQ

FIG.1

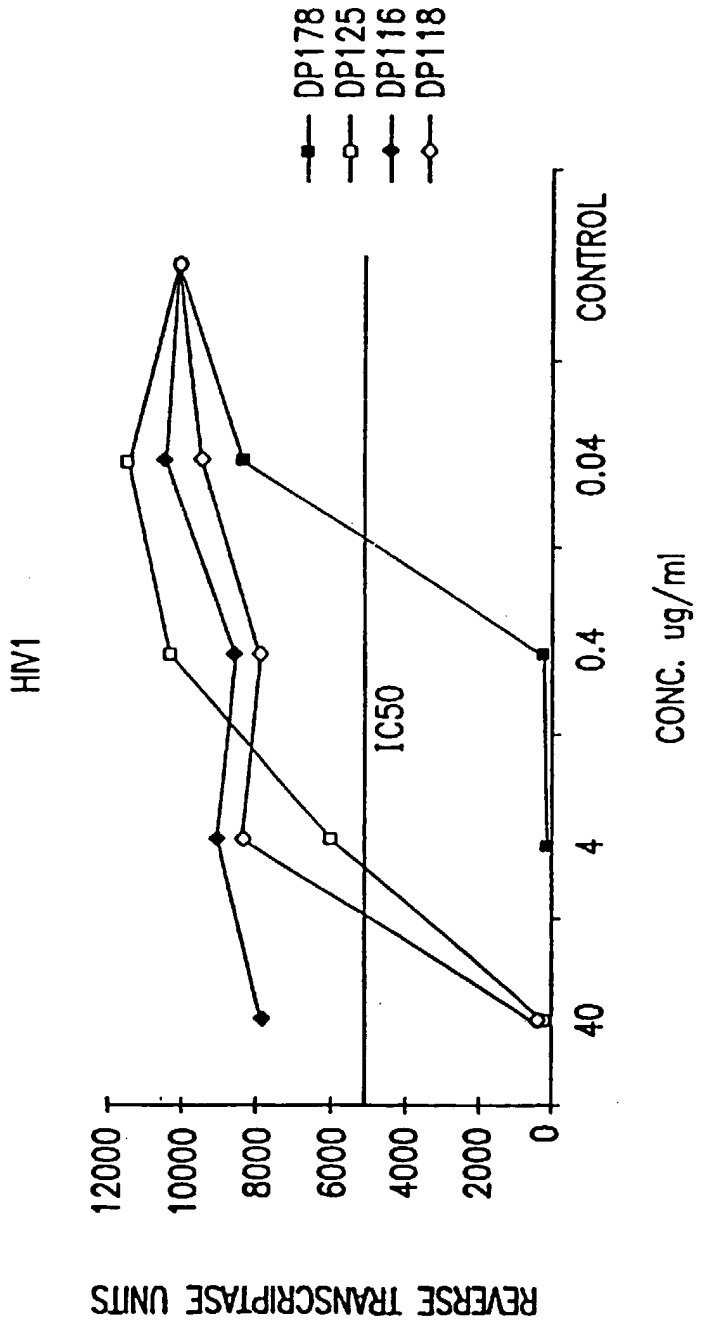

DP178
DP125
DP116
DP118
HIV1
IC50
CONTROL
0.04
0.4
4
40
CONC. ug/ml
REVERSE TRANSCRIPTASE UNITS
12000
10000
8000
6000
4000
2000
0

FIG.2

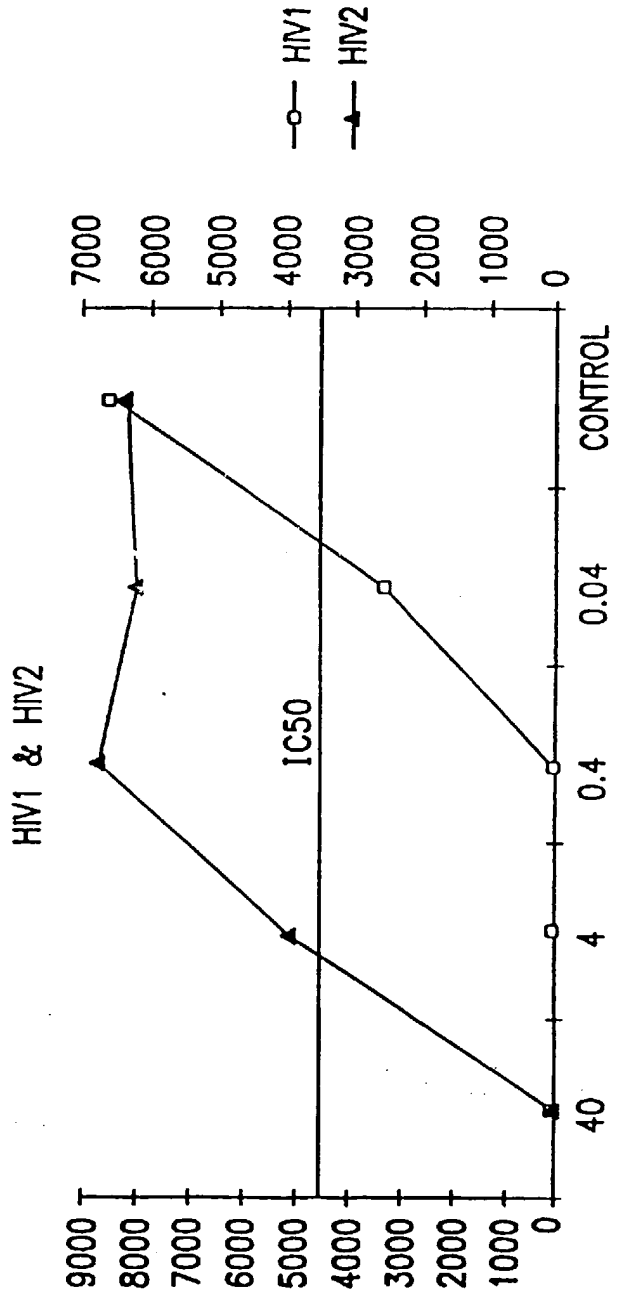

HIV1
HIV2
HIV1 & HIV2
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
7000
6000
5000
4000
3000
2000
1000
0
IC50
40
4
0.4
0.04
CONTROL
PD178 CONC. ug/ml

FIG.3

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Number of Syncytia/well: concentration in μg/ml (micrograms/ml)

DP178	10	5	1	0.2	0.1	0.05	0.025	0.0125	Control
Syncytia									
HIV1LAI	0	0	0	0	0	0	0	0	67
HIV1MN	0	0	0	0	0	ND	ND	ND	34
HIV1RF	0	0	0	0	0	ND	ND	ND	65
HIV1SF2	0	0	0	0	0	ND	ND	ND	58

DP125	10	5	1	0.2	0.1	0.05	0.025	0.0125	Control
Syncytia									
HIV1LAI	0	0	54	69	80	75	79	82	67
HIV1MN	0	0	30	36	ND	ND	ND	ND	34
HIV1RF	0	0	67	63	ND	ND	ND	ND	65
HIV1SF2	0	0	9	66	ND	ND	ND	ND	58

DP116	10	5	1	0.2	0.1	0.05	0.025	0.0125	Control
Syncytia									
HIV1LAI	75	ND	ND	ND	ND	ND	ND	ND	67
HIV1MN	35	ND	ND	ND	ND	ND	ND	ND	34
HIV1RF	81	ND	ND	ND	ND	ND	ND	ND	65
HIV1SF2	81	ND	ND	ND	ND	ND	ND	ND	58

FIG.4A

DP180	40	20	10	5	2.5	1.25	0.625	0.3125	Control
Syncytia									
HIV1LAI	50	>45	>45	>45	>45	>45	>45	>45	58

DP185	40	20	10	5	2.5	1.25	0.625	0.3125	Control
Syncytia									
HIV1LAI	0	0	0	0	0	0	0	ND	60

FIG.4B

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HIV1

Number of Syncytia/well: concentration in ng/ml (nanograms/ml)

DP178	20	10	5	2.5	1.25	0.625	0.3125	Control
Syncytia HIV1	0	0	0	0	0	14	20	48
DP116	20	10	5	2.5	1.25	0.625	0.3125	Control
Syncytia HIV1	ND	48	ND	ND	ND	ND	ND	ND

HIV2

Number of Syncytia/well: concentration in µg/ml (micrograms/ml)

DP178	20	10	5	2.5	1.25	0.625	0.3125	Control
Syncytia HIV2	50	54	55	57	63	77	78	76
DP116	20	10	5	2.5	1.25	0.625	0.3125	Control
Syncytia HIV2	ND	58	ND	ND	ND	ND	ND	ND

FIG.5

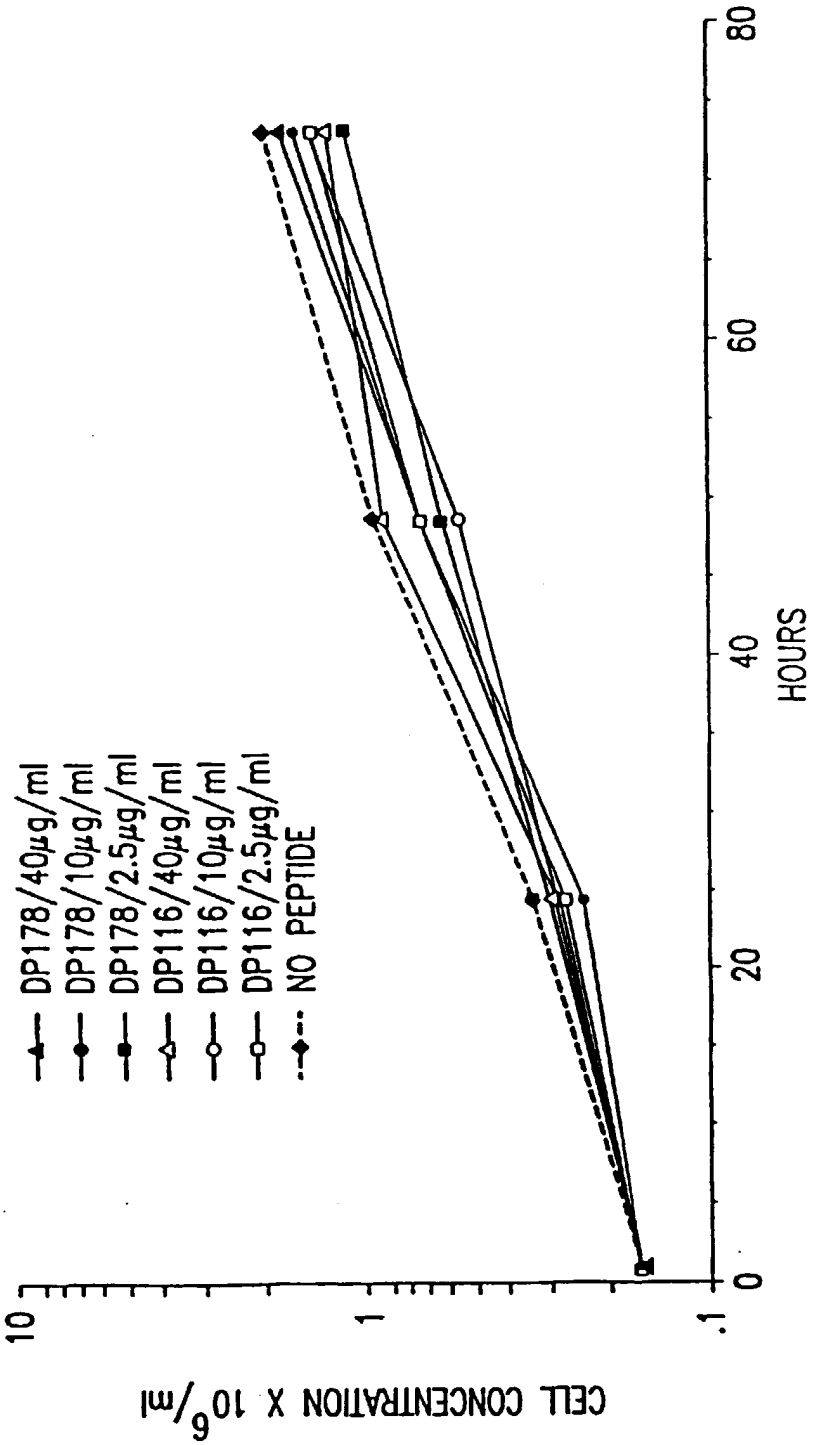

CELL CONCENTRATION X 10^6/ml
10
1
.1
0
20
40
60
80
HOURS
DP178/40μg/ml
DP178/10μg/ml
DP178/2.5μg/ml
DP116/40μg/ml
DP116/10μg/ml
DP116/2.5μg/ml
NO PEPTIDE

FIG.6

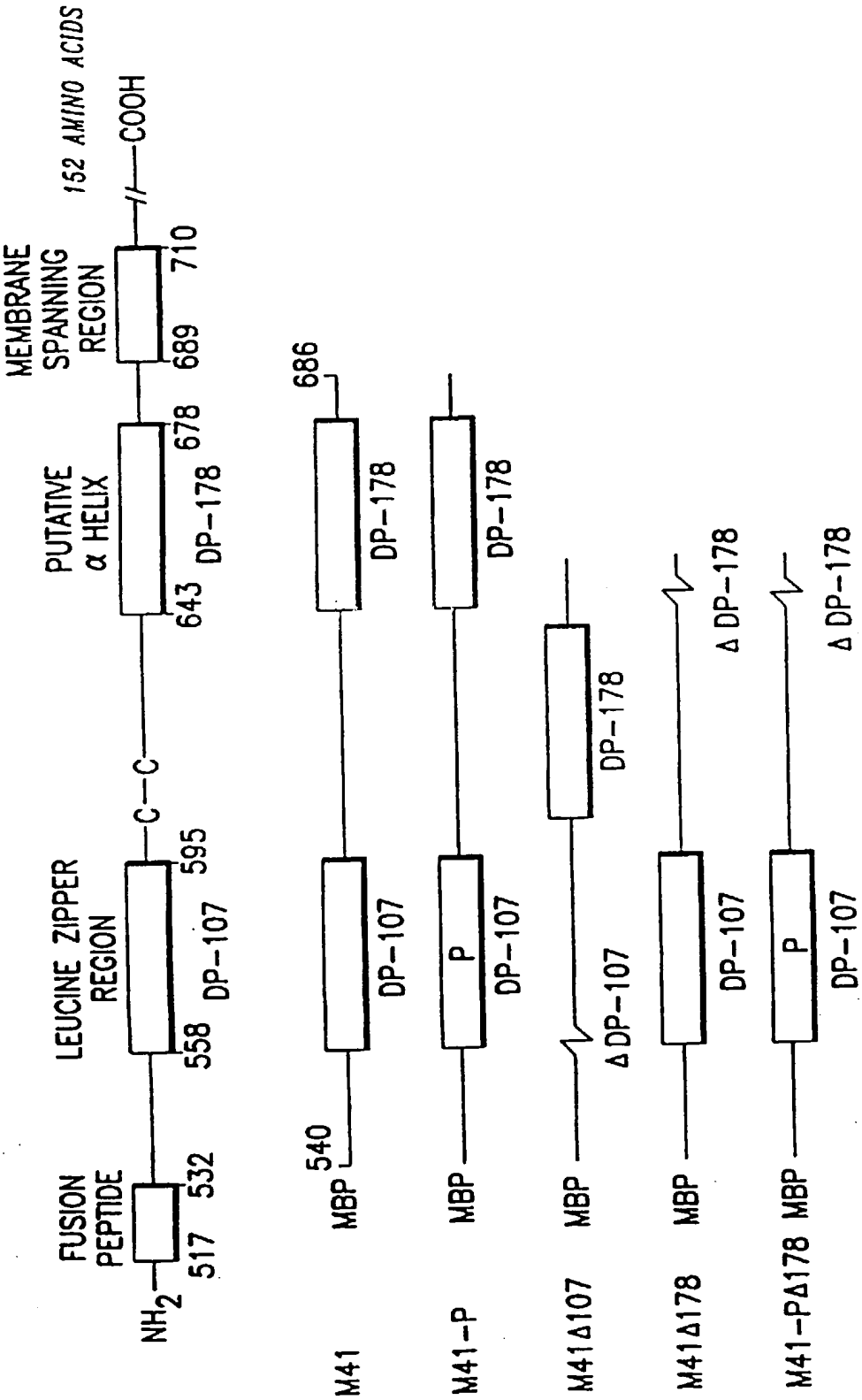

NH2
FUSION PEPTIDE
517
532
LEUCINE ZIPPER REGION
558
DP-107
595
C—C
PUTATIVE α HELIX
643
DP-178
678
MEMBRANE SPANNING REGION
689
710
152 AMINO ACIDS
COOH
M41
MBP
540
DP-107
DP-178
686
M41-P
MBP
P
DP-107
DP-178
M41Δ107
MBP
ΔDP-107
DP-178
M41Δ178
MBP
DP-107
ΔDP-178
M41-PΔ178
MBP
P
DP-107
ΔDP-178

FIG. 7

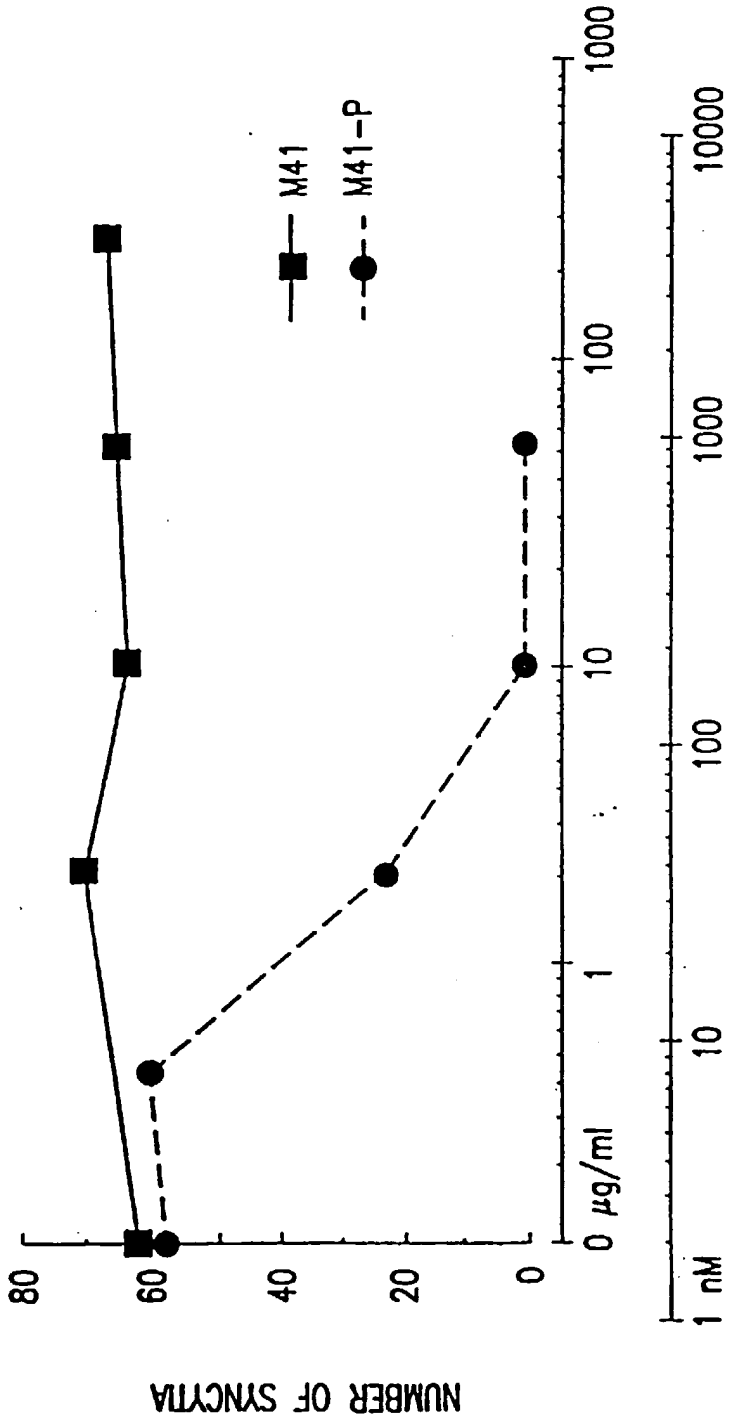

M41
M41-P
NUMBER OF SYNCYTIA
80
60
40
20
0
0 µg/ml
1
10
100
1000
1 nM
10
100
1000
10000

FIG.8

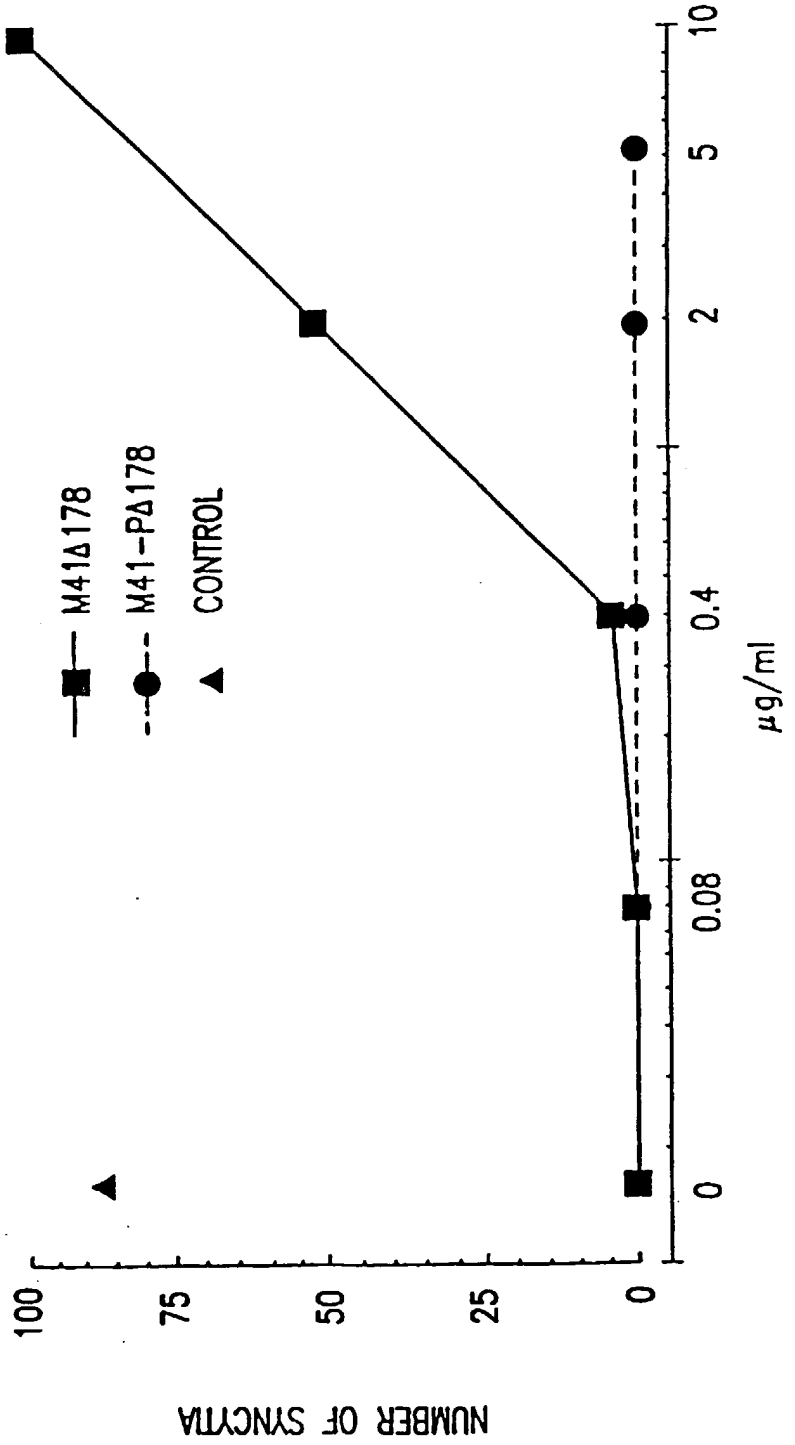

M41Δ178
M41-PΔ178
CONTROL
NUMBER OF SYNCYTIA
100
75
50
25
0
0
0.08
0.4
2
5
10
μg/ml

FIG.9

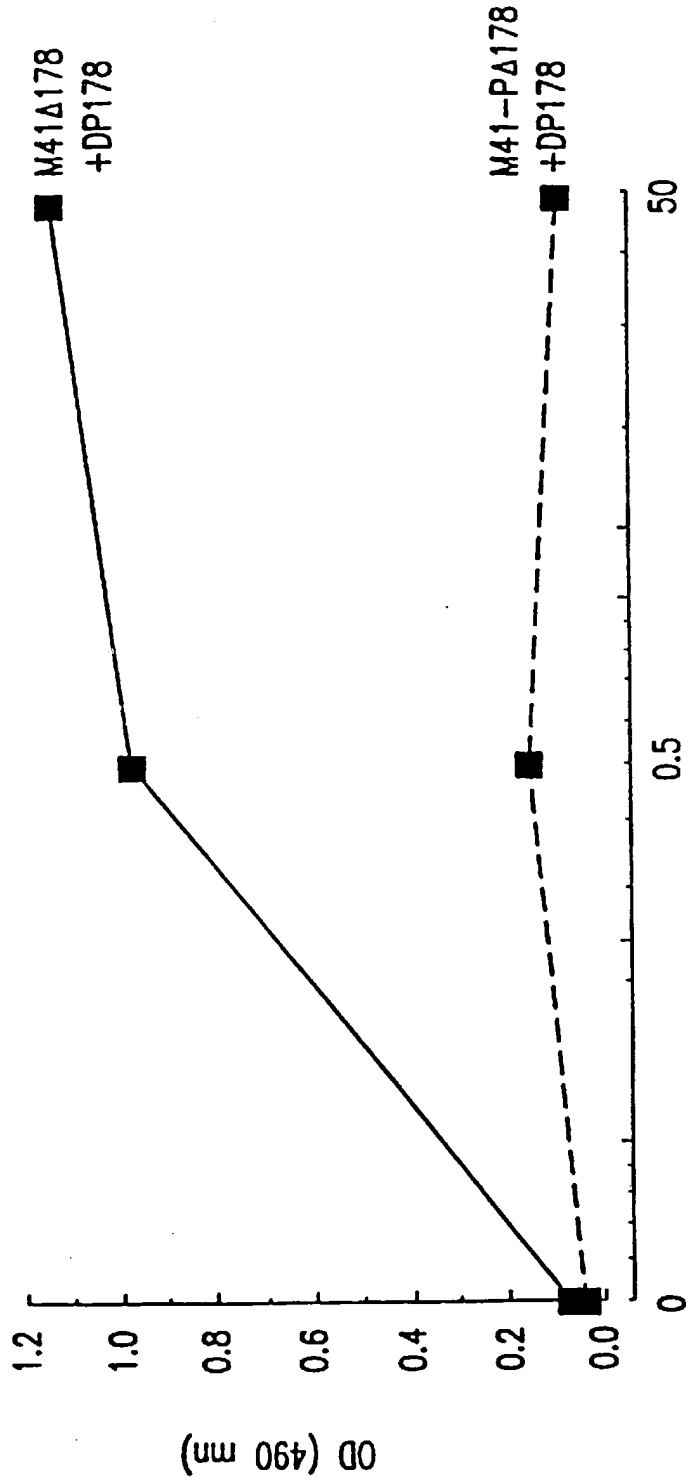

M41Δ178
+DP178
M41-PΔ178
+DP178
OD (490 mn)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0
0.5
50
PEPTIDE CONCENTRATION (μg/ml)

FIG.10

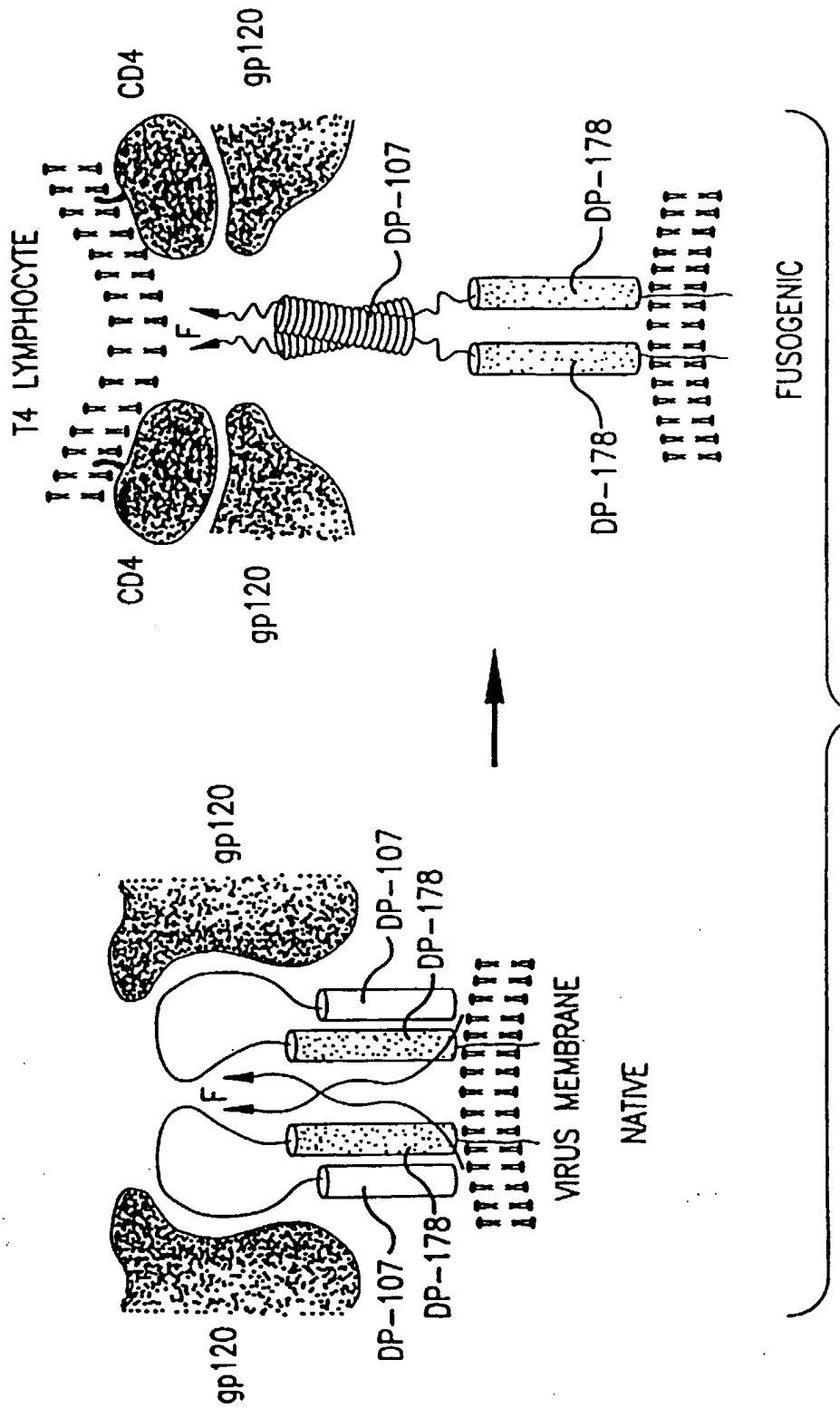

T4 LYMPHOCYTE
CD4
gp120
CD4
gp120
DP-107
DP-178
F
DP-178
FUSOGENIC
gp120
DP-107
DP-178
F
VIRUS MEMBRANE
NATIVE
DP-107
DP-178
gp120

FIG.11A

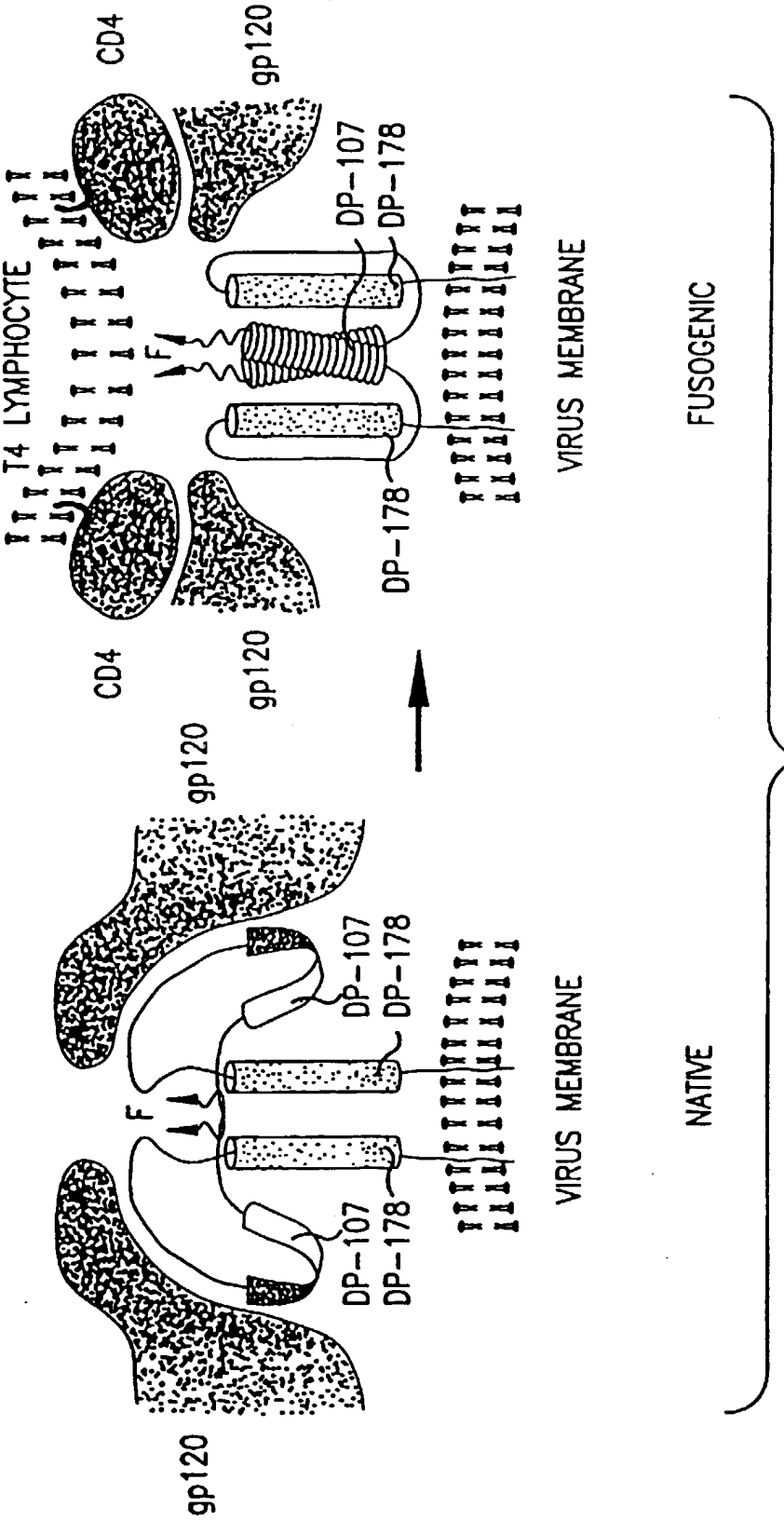

T4 LYMPHOCYTE
CD4
gp120
F
DP-107
DP-178
VIRUS MEMBRANE
FUSOGENIC
NATIVE

FIG.11B

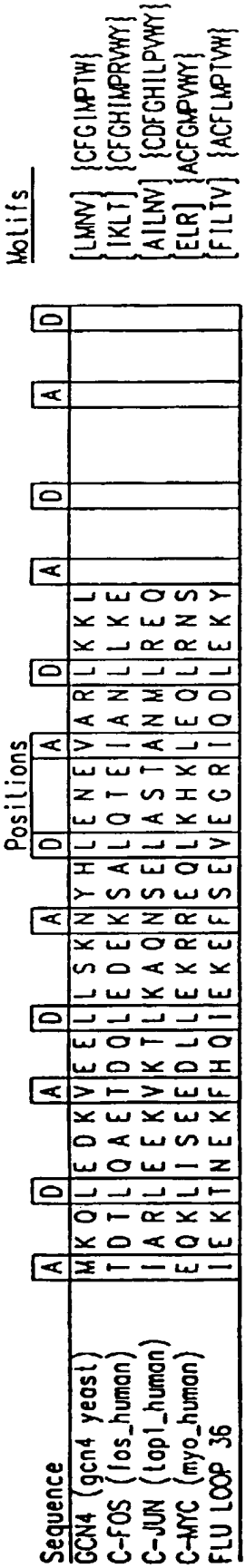

Positions
Motifs
Sequence
GCN4 (gcn4 yeast)
C-FOS (fos_human)
C-JUN (jap1_human)
C-MYC (myo_human)
FLU LOOP 36
[LMNV] {CFGIMPTW}
[IKLT] {CFGHIMPRVWY}
[AILNV] {CDFGHILPVWY}
[ELR] {ACFGMPVWY}
[FILTV] {ACFLMPTVW}

FIG.12

Sequence	Positions																															Motifs
	A		D			A		D			A		D			A		D			A		D			A		D			
DP-107 (env_hv1bru)L1=D		N	N	L	L	R	A	I	E	A	Q	Q	H	L	L	Q	L	T	V	W	G	I	K	Q	L	Q	A	R	I				[ILQT] {CFIMPSTY}
DP-107 (env_hv1bru)L1=D		N	N	L	L	R	A	I	E	A	Q	Q	H	L	L	Q	L	T	V	W	G	I	K	Q	L	Q	A	R	I	L	A	V	[ILQTV] {CDFIMPST}
DP-107 (env_hv1bru)L1=D		N	N	L	L	R	A	I	E	A	Q	Q	H	L	L	Q	L	T	V	W	G	I	K	Q	L	Q	A	R	I	L	A	V	[ILQTV] {CDFIMPST}
DP-107 (env_hv1bru)L2=D	N	N	L	L	R	A	I	E	A	Q	Q	H	L	L	Q	L	T	V	W	G	I	K	Q	L	Q	A	R	I				[EKLNQV] {CDFKMPSVY}
DP-107 (env_hv1bru)L2=D	N	N	L	L	R	A	I	E	A	Q	Q	H	L	L	Q	L	T	V	W	G	I	K	Q	L	Q	A	R	I	L	A	V	[EKLNQV] {CFKMPS}
DP-107 (env_hv1bru)L2=D	N	N	L	L	R	A	I	E	A	Q	Q	H	L	L	Q	L	T	V	W	G	I	K	Q	L	Q	A	R	I	L	A	V	[EKLNQV] {CFKMPS}
DP-178 (env_hv1bru)Y1=A	Y	T	S	L	I	H	S	L	I	E	E	S	Q	N	Q	Q	E	K	N	E	Q	E	L	L	E	L	D	K				[EKLQY] {ACFGMPRVWY}
DP-178 (env_hv1bru)Y1=A	Y	T	S	L	I	H	S	L	I	E	E	S	Q	N	Q	Q	E	K	N	E	Q	E	L	L	E	L	D	K	W	A	S	[EKLQWY] {CFGMPRVY}
DP-178 (env_hv1bru)Y1=A	Y	T	S	L	I	H	S	L	I	E	E	S	Q	N	Q	Q	E	K	N	E	Q	E	L	L	E	L	D	K	W	A	S	[EFKLQWY] {CFGMPRVY}
DP-178 (env_hv1bru)Y1=D			Y	T	S	L	I	H	S	L	I	E	E	S	Q	N	Q	Q	E	K	N	E	Q	E	L	L	E	L	D	K			[EILNQSY] {ACFGMPRVWY}
DP-178 (env_hv1bru)Y1=D			Y	T	S	L	I	H	S	L	I	E	E	S	Q	N	Q	Q	E	K	N	E	Q	E	L	L	E	L	D	K	W	A	S	[EILNQSWY] {CFGMPRVY}
DP-178 (env_hv1bru)Y1=D			Y	T	S	L	I	H	S	L	I	E	E	S	Q	N	Q	Q	E	K	N	E	Q	E	L	L	E	L	D	K	W	A	S	[EFILNQSWY] {CFGMPRVY}

FIG.13

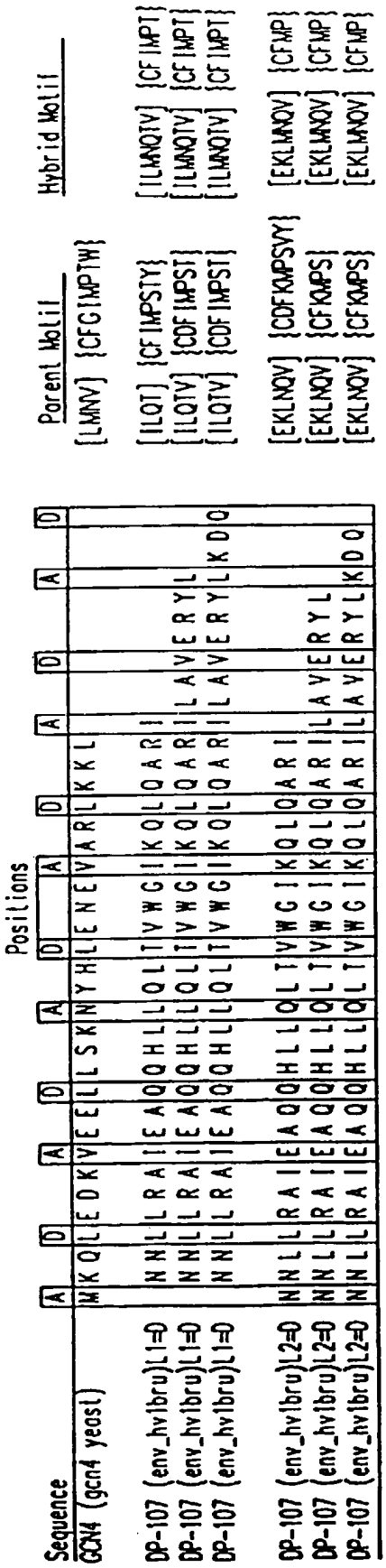

Positions
Sequence
Parent Motif
Hybrid Motif
GCN4 (gcn4 yeast) [LMNV] {CFGIMPTW}
DP-107 (env_hv1bru)L1=0 [ILQT] {CFIMPSTY} [ILMNQTV] {CFIMPT}
DP-107 (env_hv1bru)L1=0 [ILQTV] {CDFIMPST} [ILMNQTV] {CFIMPT}
DP-107 (env_hv1bru)L1=0 [ILQTV] {CDFIMPST} [ILMNQTV] {CFIMPT}
DP-107 (env_hv1bru)L2=0 [EKLNQV] {CDFKMPSVY} [EKLMNQV] {CFMP}
DP-107 (env_hv1bru)L2=0 [EKLNQV] {CFKMPS} [EKLMNQV] {CFMP}
DP-107 (env_hv1bru)L2=0 [EKLNQV] {CFKMPS} [EKLMNQV] {CFMP}

FIG. 14

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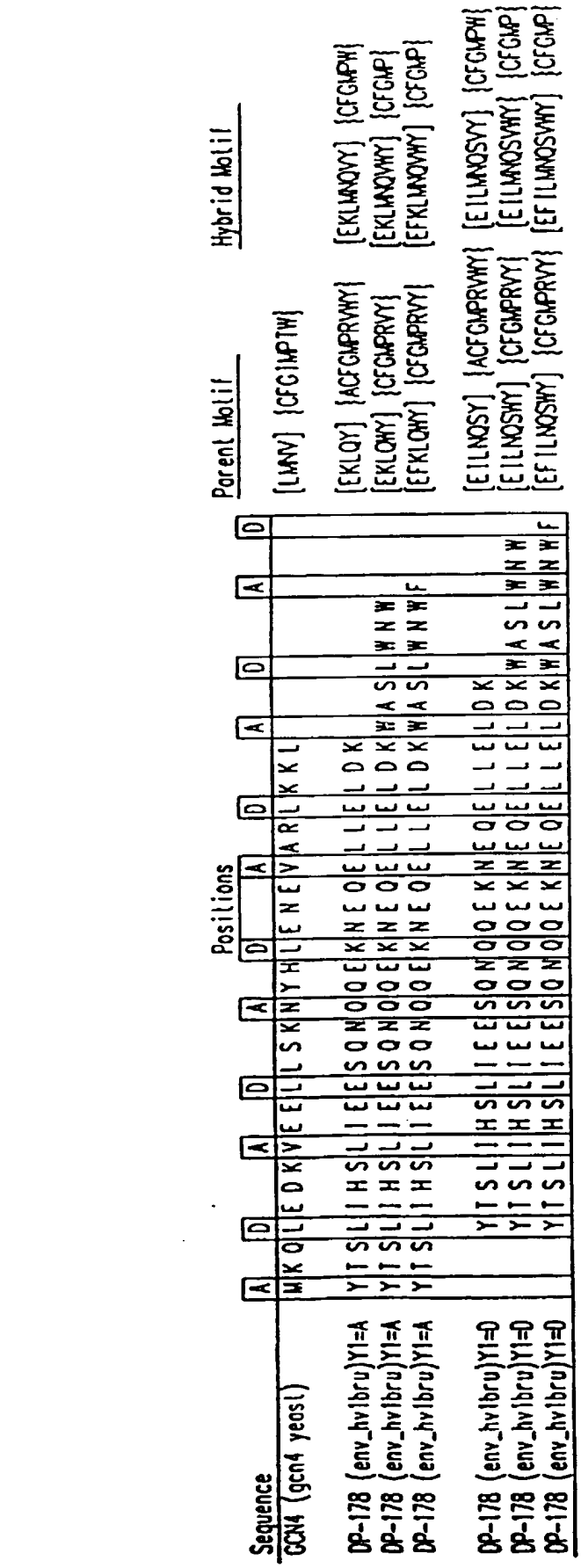


FIG.15

Sequence	Positions																																				Parent Motif	Hybrid Motif
	A		D			A			D			A		D			A		D			A		D			A		D									
DP-107 (env_hv1bru)L1=D		N	N	L	L	R	A	I	I	E	A	Q	Q	H	L	L	Q	L	T	V	W	G	I	K	Q	L	Q	A	R	I	L	A	V	E	R	Y	L	K	D	Q	[ILQTV]	[CDFIMPST]
DP-107 (env_hv1bru)L2=D		N	N	L	L	R	A	I	I	E	A	Q	Q	H	L	L	Q	L	T	V	W	G	I	K	Q	L	Q	A	R	I	L	A	V	E	R	Y	L	K	D	Q	[EKLNQV]	[CFKMPS]
DP-178 (env_hv1bru)Y1=A		Y	T	S	L	I	H	S	L	I	E	E	S	Q	N	Q	Q	E	K	N	E	Q	E	L	L	E	L	D	K	W	A	S	L	W	N	W	F			[EFKLQWY]	[CFGMPRVY]
DP-178 (env_hv1bru)Y1=D				Y	T	S	L	I	H	S	L	I	E	E	S	Q	N	Q	Q	E	K	N	E	Q	E	L	L	E	L	D	K	W	A	S	L	W	N	W	F			[EFILNOSWY]	[CFGMPRVY]	[EFIKLNOSTVWY]	[CFMP]
FLU LOOP 36		I	I	E	K	T	N	E	K	F	H	Q	I	E	K	E	F	S	E	V	E	G	R	I	Q	D	L	E	K	Y											[FILTV]	[ACFLMPTVW]		

FIG. 16

Sequence	Positions																																					Parent Motif	Hybrid Motif
	A		D			A		D		A		D			A		D				D			A		D												
GCN4 (gcn4 yeast)	M	K	Q	L	E	D	K	V	E	E	L	L	S	K	N	Y	H	L	E	N	E	V	A	R	L	K	K	L										[LMNV] {CFGIMPTW}	
DP-107 (env_hv1bru)L1=0		N	N	L	L	R	A	I	E	A	Q	Q	H	L	L	Q	L	T	V	W	G	I	K	Q	L	Q	A	R	I	L	A	V	E	R	Y	L	K	D	Q	[ILQTV] {CDFIMPST}	
DP-178 (env_hv1bru)Y1=A	Y	T	S	L	I	M	S	L	I	E	E	S	Q	N	Q	Q	E	K	N	E	Q	E	L	L	E	L	D	K	W	A	S	L	W	N	W	F				[EFKLQWY] {CFGMPRVY}	[EFIKLMNQTVWY] {CFMP}
GCN4 (gcn4 yeast)	M	K	Q	L	E	D	K	V	E	E	L	L	S	K	N	Y	H	L	E	N	E	V	A	R	L	K	K	L										[LMNV] {CFGIMPTW}	
DP-107 (env_hv1bru)L1=0		N	N	L	L	R	A	I	E	A	Q	Q	H	L	L	Q	L	T	V	W	G	I	K	Q	L	Q	A	R	I	L	A	V	E	R	Y	L	K	D	Q	[ILQTV] {CDFIMPST}	
DP-178 (env_hv1bru)Y1=0				Y	T	S	L	I	H	S	L	I	E	E	S	Q	N	Q	Q	E	K	N	E	Q	E	L	L	E	L	D	K	W	A	S	L	W	N	W	F	[EFILNQSWY] {CFGMPRVY}	[EFILMNQRSTVWY] {CFMP}
GCN4 (gcn4 yeast)	M	K	Q	L	E	D	K	V	E	E	L	L	S	K	N	Y	H	L	E	N	E	V	A	R	L	K	K	L										[LMNV] {CFGIMPTW}	
DP-107 (env_hv1bru)L2=0	N	N	L	L	R	A	I	E	A	Q	Q	H	L	L	Q	L	T	V	W	G	I	K	Q	L	Q	A	R	I	L	A	V	E	R	Y	L	K	D	Q		[EKLNQV] {CFKMPS}	
DP-178 (env_hv1bru)Y1=A	Y	T	S	L	I	H	S	L	I	E	E	S	Q	N	Q	Q	E	K	N	E	Q	E	L	L	E	L	D	K	W	A	S	L	W	N	W	F				[EFKLQWY] {CFGMPRVY}	[EFKLMNQVWY] {CFMP}
GCN4 (gcn4 yeast)	M	K	Q	L	E	D	K	V	E	E	L	L	S	K	N	Y	H	L	E	N	E	V	A	R	L	K	K	L										[LMNV] {CFGIMPTW}	
DP-107 (env_hv1bru)L2=0	N	N	L	L	R	A	I	E	A	Q	Q	H	L	L	Q	L	T	V	W	G	I	K	Q	L	Q	A	R	I	L	A	V	E	R	Y	L	K	D	Q		[EKLNQV] {CFKMPS}	
DP-178 (env_hv1bru)Y1=0				Y	T	S	L	I	H	S	L	I	E	E	S	Q	N	Q	Q	E	K	N	E	Q	E	L	L	E	L	D	K	W	A	S	L	W	N	W	F	[EFILNQSWY] {CFGMPRVY}	[EFIKLMNQSVWY] {CFMP}

FIG.17

7872-020 (SHEET 19 OF 63)

| Sequence | Positions | | |

P-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]
P-{P}(1)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]
P-{P}(2)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]
P-{P}(3)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]
P-{P}(4)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]
P-{P}(5)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]
P-{P}(6)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]
P-{P}(7)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]
P-{P}(8)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]
P-{P}(9)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]
P-{P}(10)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]
P-X(1,12)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]
P-X(13,23)-[LIV]-{P}(6)-[LIV]-{P}(6)-[LIV]

FIG.19

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Fusion ▼ALLMOTI5▼
Peptide ♦107x178x4♦
▼.....FLGFLG A AGSTMGARSM TLTVQARQ ♦LL SGIVQQQ *DP107-NNL*

LRAIEAQQHL LQLTVWGIKQ LQARILAVER YLKDQ-DP107 QLLG♦▼ I WGC

♦107x178x4♦
▼ALLMOTI5▼ *LVS Coiled-Coil*
SGKLICT TAVP ▼WNASWS NKSLEQIWNN MTWM *E ♦WDREI NN *DP178-*

YTSLIHSL IEESQNQQEK NEQELLELDK WASLWNWF-DP178* NI

♦Transmembrane Region♦
TNWLWYIK♦ ♦IF IMIVGGLVGL RIVFAVLSIV NRVRQGYS▼ PL

♣P23LZIPC♣
SFQTHLPTPR GPDR ♣PEGIEE EGGERDRDRS IRLVNGSLAL IWDDLRSL♣ CL

▼ALLMOTI5▼ ♦107x178x4♦
F ▼SYHRLRDLL LIVTRIVELL GRRGW ♦EALKY WWNLLQYWSQ

ELKNSAVSLL NAT♦ AIAVAEG TDRVIEVVQG A▼ CRAIRHIPR

RIRQGLERIL L

FIG. 20

7872-020 (SHEET 22 OF 63)

Fusion ▼ALLMOTI5▼
Peptide ♣107x178x4♣
▼.....FLGFL LGVGSAIAS GVA ♣YSKVLHLEGEVNKIKSA

♣P1&12LZIPC♣
LLSTNKAVVS LSNGVSVLTS KVLDLKNYID KQ♣▼ LL ♣PIVNKQ

♣107x178x4♣
SC ♣SISNIETV I♣ EFQQKNNRLLEITREFSVNAG♣ VTTPVSTMLTNSELLSL

♣P1&12LZIPC♣
▼ALLMOTI5▼
INDM ♣PI ▼TNDQ KKLMSNNVQI V♣ RQQSYSI♣ MS IIKEEVLAYV

VQ▼ LPLYGVID TPCWKLHTSP LCTTNTKEGS NICLTRTDRG WYCDNAGSVS

FFPQAETCKV QSNRVFCDTM NSLTLPSEIN LCNVDIFNPK

YDCKIMTSKT DVSSSVITSL GAIVSCYGKT KCTASNKNRG

IIKTFSNGCDYVSNKGMDTV SVGNTLYYVN KQEGKSLYVK G

♣P7, 12, & 23LZIPC♣
♣107x178x4♣ ▼ALLMOTI5▼
EPIINFYDPLVF ♣PSDE ♣FDASISQVNEKINQSLAF ▼I♣ RKSDELL♣

♦Transmembrane Region♦
HNVNA♣ GK STTN ♦IMITTIIVIIVILLS LIAVGLLLY▼ C♦

KARSTPVTLS KDQLSGINNI AFSN

FIG. 21

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Fusion
Peptide ▼ALLMOTI5▼ ▲107x178x4▲
.....ELGELG ▼AAGTA MGAAA ▲TALTVQSQHLLAGILQQQKNLLAAV

▲107x178x4▲
EAQ▲ QQM ▲LKLTIWGVKNLNARVTALEKYLEDQARLN▲ AWG▼ CA

LVS Coiled-Coil
▼ALLMOTI5▼ ▲107x178x4▲
WKQVCHTTVP WQWNNRTPDW ▼NNMT *WLE ▲WERQISYLEGNIT

▲107x178x4▲
TQLEEARAQEEKNLD▲ AYQKLSS* WSDFWSW▼ FDF ▲SKWLN ♦ILK

♦Transmembrane Region♦
IGELDVLGIIGLRLLYTV♦ YS▲ CIARVRQGYS PLSPQIHIHP WKGQPDNAEG

PGEGGDKRKN SSEPWQKESG TAEWKSNWCK RLTNWCSISS IWLYNS

▼ALLMOTI5▼
▼CLTL LVHLRSAFQY IQYGLGELKA AAQEAVVALA RLAQNAGYQIWL▼

ACRSAYRA IINSPRRVRQ GLEGILN

FIG. 22

Fusion ♦107x178x4♦
Peptide ♥ALLMOTI5♥ *LVS Coiled-Coil*
.....EAG ♥VVL AGVALGVATA AQITAGIALHQ ♦*SNLNAQAIQ

SLRTSLEQSNKAIEEIREATQETVIA* VQGVQDY♦ VNNEL♥ VP

♥ALLMOTI5♥
♦107x178x4♦
♣P6 & 12LZIPC♣
AMQHMSCELVGQRLGLRLLRYYTELLSIFGPSLRD ♣PISA ♦♥EISIQALIYAL

GGEIHKILEKLGYSGSD♦ MIAILESRGIKTKI♥ THVDLPGKF IILSISY

♣P1 & 12LZIPC♣
♣PTLSEVKGVIVHRLEAV♣ SYNIGSQEWYTTVPRYIATNGYLISNFDESSCVFVS

ESAICSQNSL YPMSPLLQQC IRGDTSSCAR TLVSGTMGNK FILSKGNIVA

NCASILCKCY STSTIINQSP DKLLTFIASD TCPLVEIDGA TIQVGGRQYP

LVS Coiled-Coil
♥ALLMOTI5♥
♣P12 & 23LZIPC♣
DMVYEGKVAL G ♣PAISLD ♥RL*DVGTNLGNALKKLDDAKVLI♣

♦Transmembrane Region♦
DSS♣ NQILETVR RS♥* SFN ♦FGSLL SVPILSCTAL ALLLLIYCC♦

K RRYQQTLKQH TKVDPAFKPD LTGTSKSYVR SL

FIG. 23

Fusion ♥ALLMOTI5♥
Peptide
♥.....FIGAI IGSVALGVA TAAQITAASA LIQANQNAAN ♠107x178x4♠ ♠ILRLKESITA

TIEAVIIEVTDGLSQLAVA♠ VG KM♥ QQFVNDQFNNTAQELDCIKITQQV

♥ALLMOTI5♥
GVELNLYLTELTTV FGPQITSPAL ♥TQLTIQALYNAGGNMDYLLTKLGVG

♣P1 & 12LZIPC♣
NNQLSSLIGSGLIT GN♥ ♣PILYDSQT QLLGIQVTLP SVGNLNNMRATYLET

LSVST TKGFASALVP KVVTQVGSVI EELDTSYCIE TDLDLYCTRI VTFPMSPGIY

SCLNGNTSAC MYSKTEGALT TPYMTLKGSV IANCKMTTCR CADPPGIISQ

♥ALLMOTI5♥
♠107x178x4♠
NYGEAVSLID RHSCN ♠♥VLSLD GITLRLSGEF DATYQKNISI LDSQVIVTG

♦LVS Coiled-Coil♦ ♦Trans-
♦N LDISTELGNV NNSISNALDK LEESNSKLDK VNVKLTSTSA ♦LIT♦ YIA

membrane Region♦
LTAISLVCGILSLV♥♠ LACYLMY♦ KQKAQQKTLLWLGNNTLGQMRATTKM

FIG. 24

7872-020 (SHEET 26 OF 63)

Fusion ▼ALLMOTI5▼
Peptide ♠107x178x4♠ *LVS Coiled-Coil*
.....FFGGV ♠IG ▼TIALG *VATSAQITAAVALVEAKQARSDIEKLKE

AIRDTNKAVQSVQSSIGNLIVAIKSVQ* DYVNKE▼♠ IVPSIARLGCEAAG

▼ALLMOTI5▼
♠107x178x4♠
LQLGIALTQH ♠▼YSELTNIFGDNIGSLQEKGIKLQGIASLYRTNITE▼♠

♣P5 & 12LZIPC♣
IFTTSTVDKYDIYDLLFTESIKVRVIDVDLNDYSITLQVRL ♣PLLTRLLNTQIYR

VDSISYNI♣ QNREWYI♣ PLPSHIMTKGAFLGGADVKECIEAFSSYIC

PSDPGFVLNHEMESCLSGNISQCPRTVVKSDIVPRYAFVNGGVVANCITT

TCTCNGIGNRINQPPDQGVKIITHKECNTIGINGMLFNTNKEGTLAFYTP

▼ALLMOTI5▼
♠107x178x4♠
♣P6 & 23LZIPC♣
NDITLNNSVALD ♣PIDI ♠SIELN ▼KAKSDLEESKEWI♣ RRSNQKL♣

♦Transmembrane Region♦
DSIGNWHQSSTT ♦IIIV♠ LIMIIILFIINVTII♦ IIAVKYY▼ R

IQKRNRVDQN DKPYVLTNK

FIG. 25

Fusion
Peptide
.....GLFGAI AGFIENGWEGMIDGWYGFRHQNSEGTG

♠107x178x4♠
♥ALLMOTI5♥
LVS Coiled-Coil
*Q ♥AADLKST ♠QAAIDQINGKLNRVIEKTNEKFHQIEKEFSEVEGRIQ

DLEKYVEDTKIDL* WSYNAELLVALENQHTI♠ DLT♥ DSEMNKLFEKTR

RQLRENAEEMGNGCFKIYHKCDNACIESIRNGTYDHDVYRDEALNNRFQIKG

VELKSGYKDWILWISFAISCFLLCVVLLGFIMWACQRGNIRCNICI

FIG. 26

7872-020 (SHEET 28 OF 63)

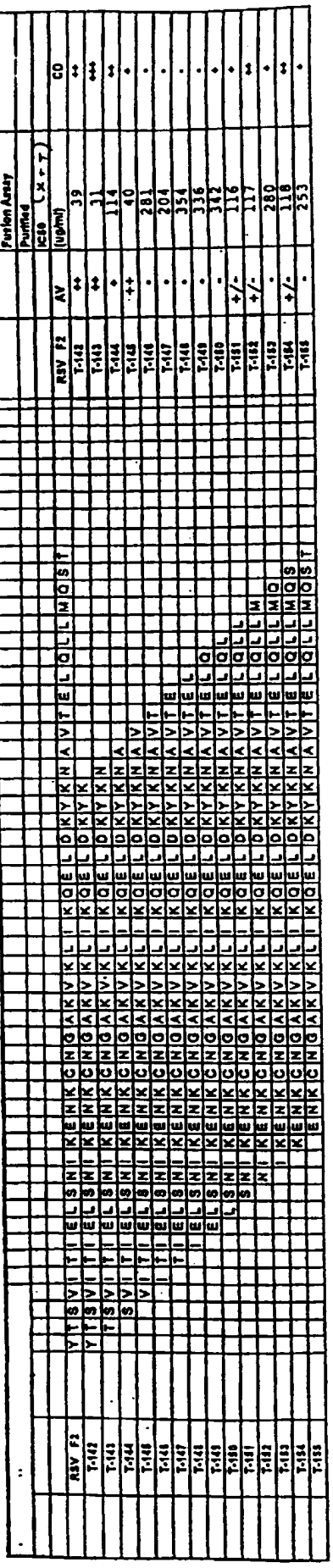


FIG. 27A

7872-020 (SHEET 29 OF 63)

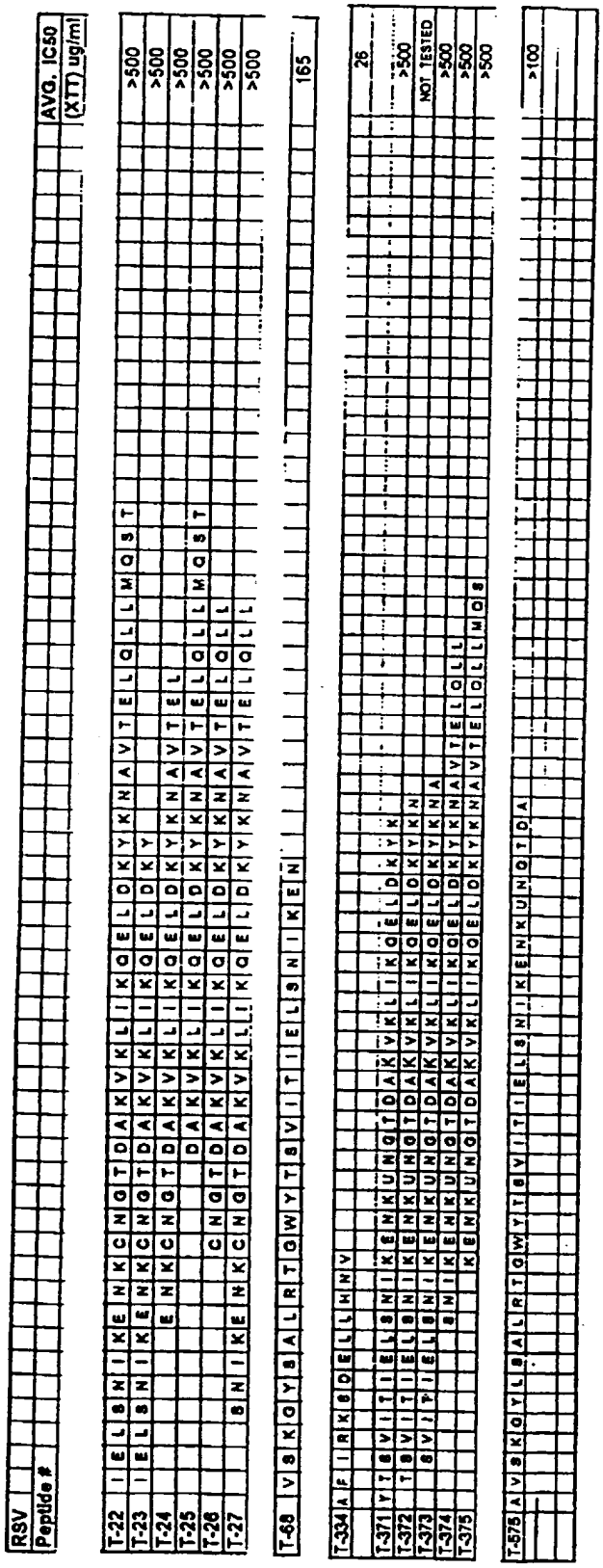


FIG. 27B

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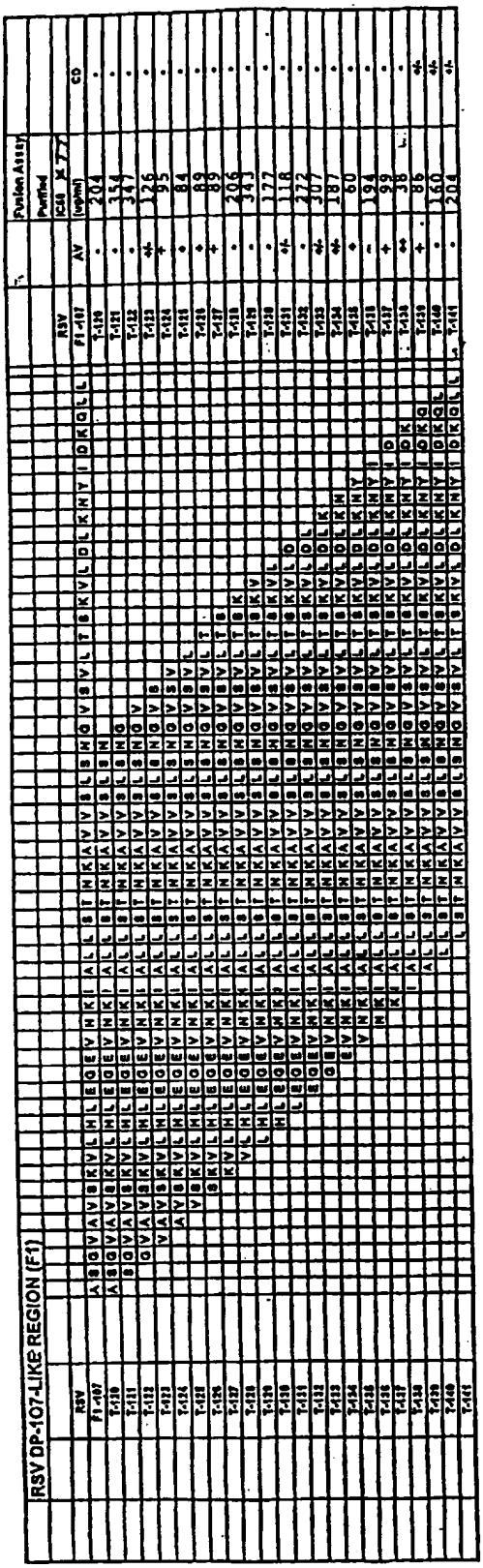


FIG. 27 C

7872-020 (SHEET 31 OF 63)

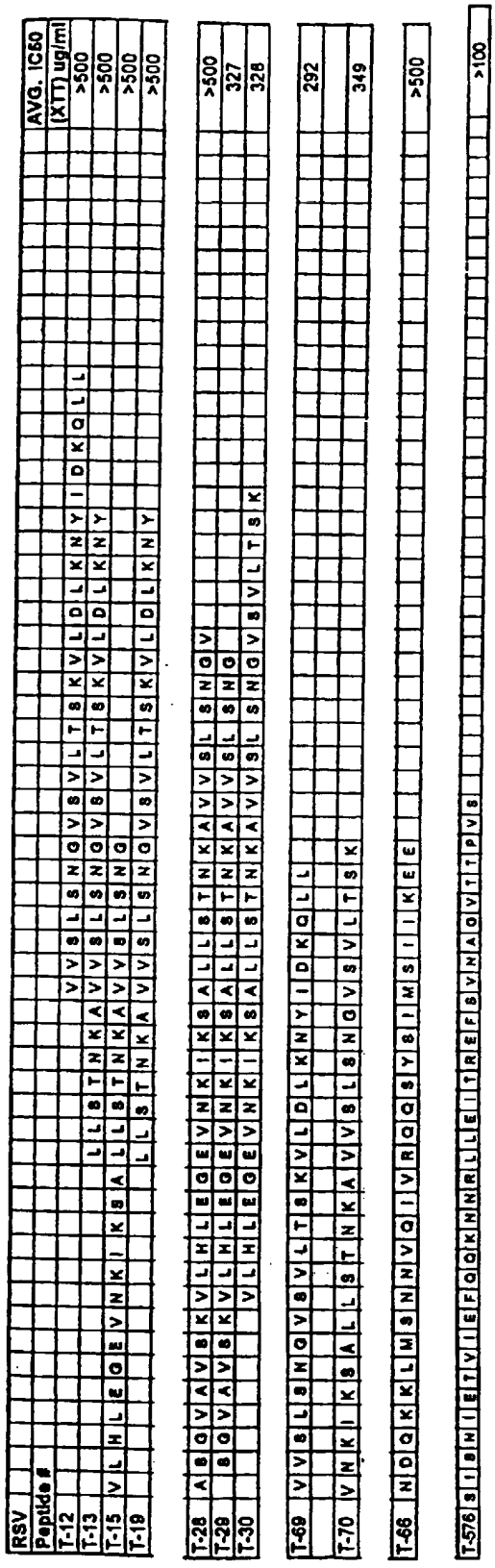


FIG. 27D

7872-020 (SHEET 32 OF 63)

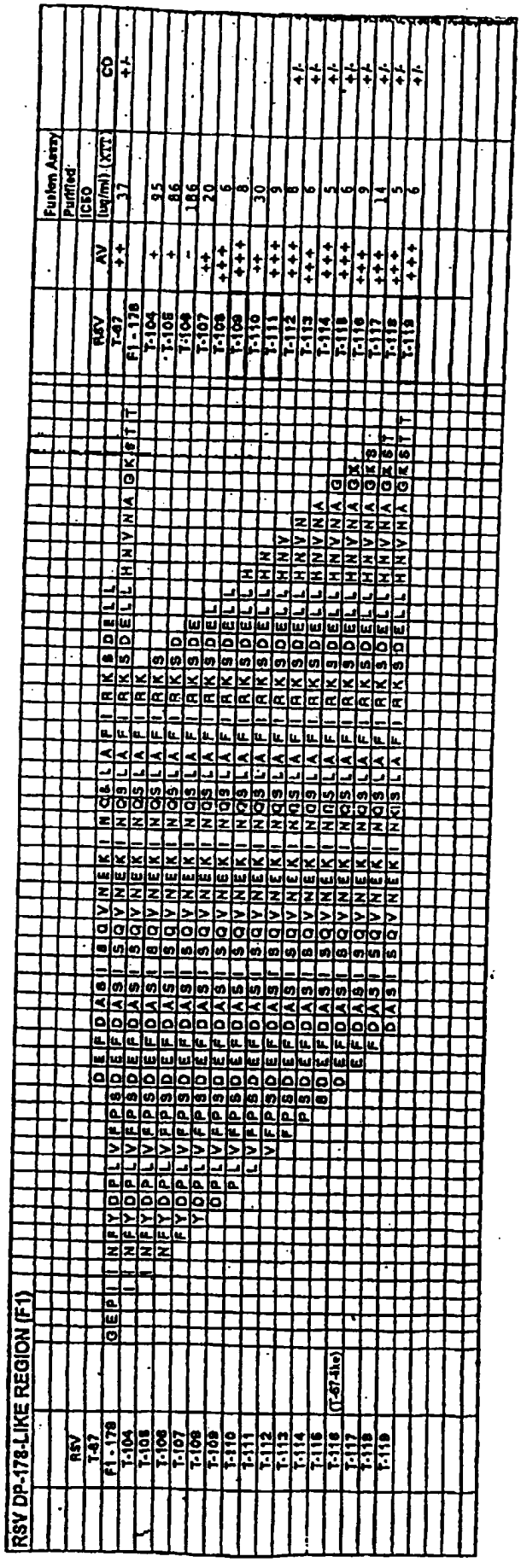


FIG. 28A

7872-020 (SHEET 33 OF 63)

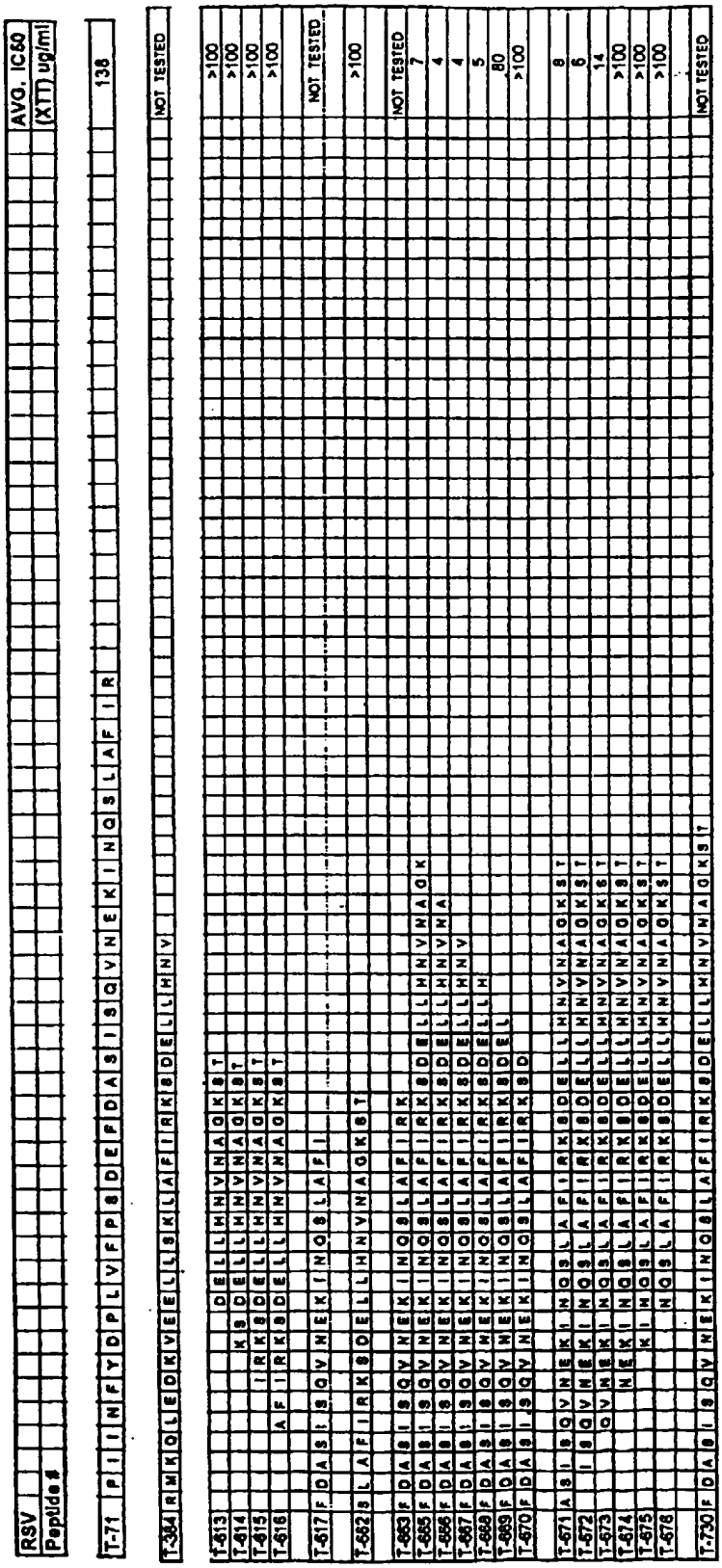


FIG. 28

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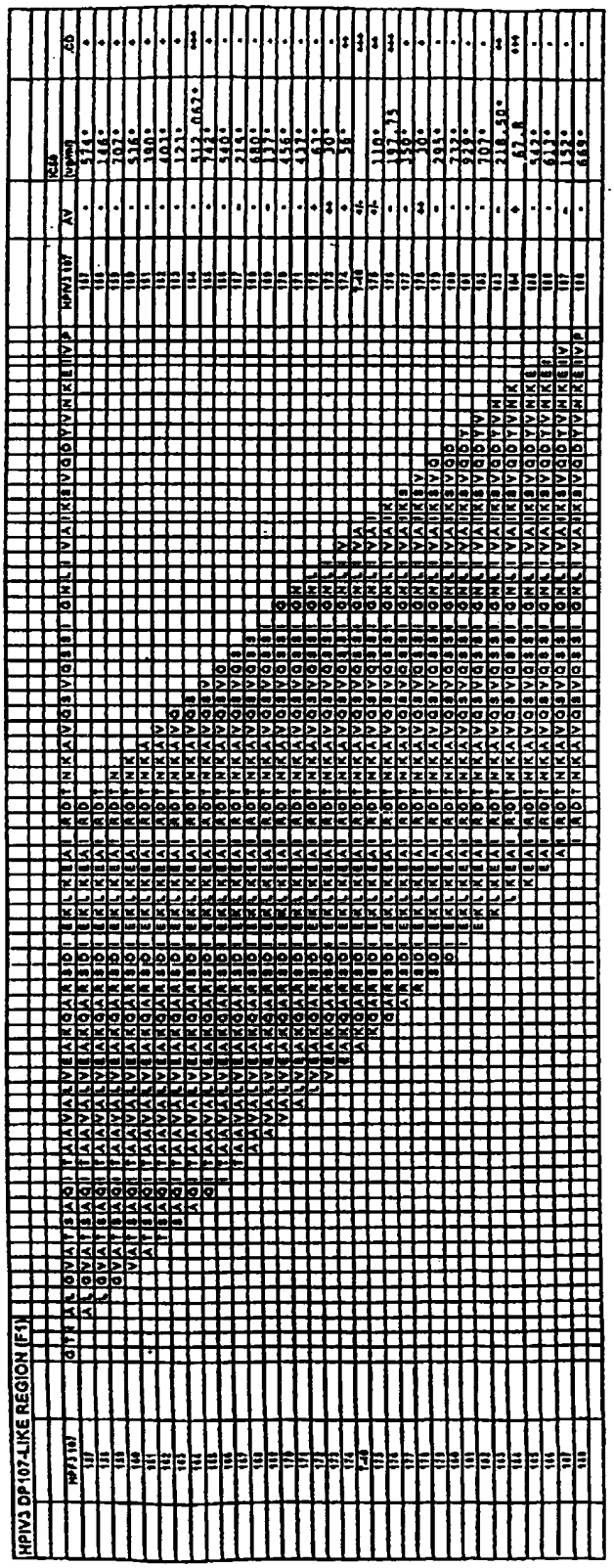
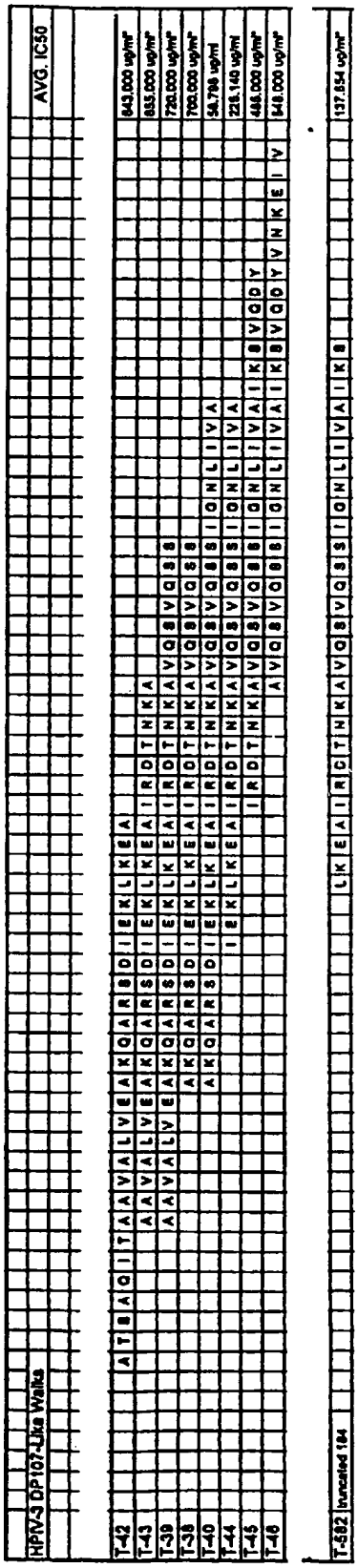


FIG. 29A

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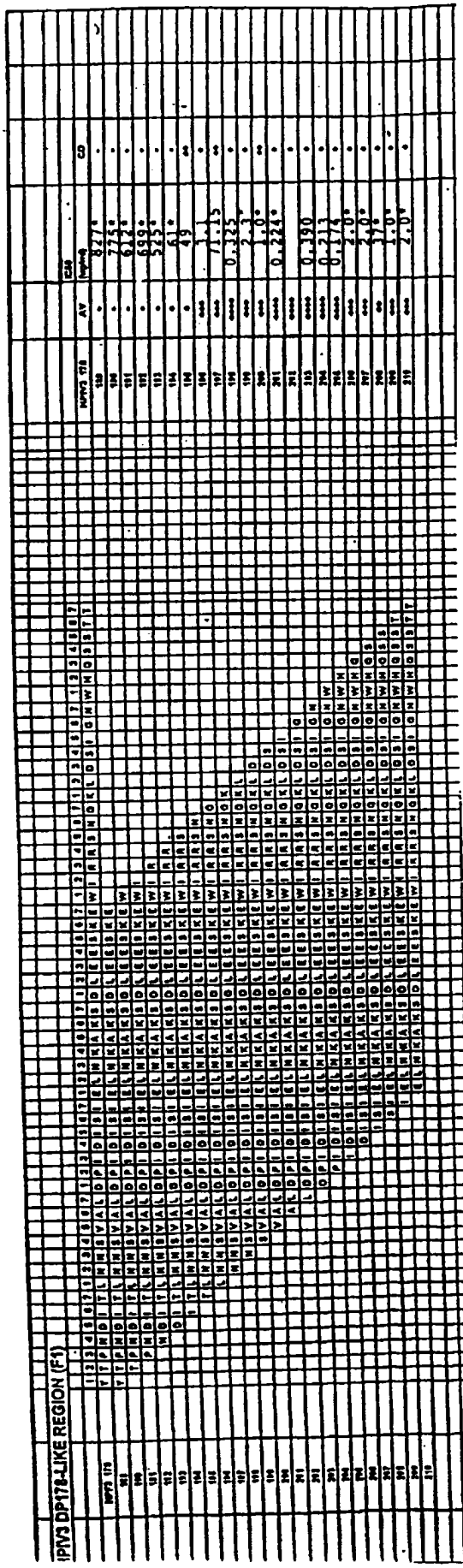


FIG. 30A

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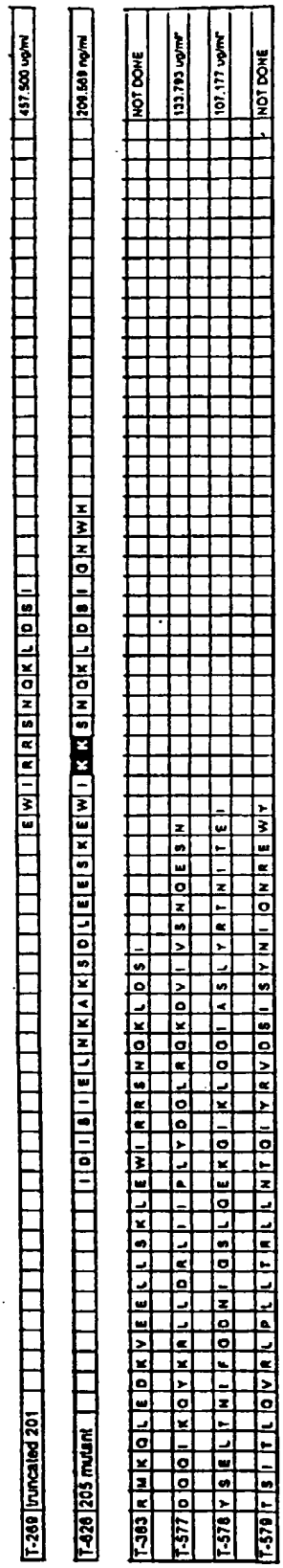


FIG. 30B

7872-020 (SHEET 38 OF 63)

Fusion ♥ALLMOTI5♥
Peptide ♠107x178x4♠
.....RNKRGVFVLGFLGFLATAGSAMGAAS ♠♥ XXXXAQSRTLLAGIVQQQQQ

LLDVVKRQQELLRLTVWGTKNLQTRVTAIEKYLKDQAQL♠NAWG♥ CAF

♥ALLMOTI5♥
*LVS Predicted Coiled -Coil
RQVCHTTVPWPNASLTPDW *NND ♥TWQEWERKVDFLEENITALLEEAQIQQ

♠107x178x4♠
EKNMY ♠ELQKLNSWD* VF♥ GNXXXXXXXXXXXXXXXXXXXXXXXXXXX♠

IYIVMLAKLRQGYRPVFSSPPSYFQXTHTQQDPALPTREGKEGDGGEGGGNSSWP

WQIEYIHF

FIG. 31

MTRRRVLSVVVLLAALACRLGAQTPEQPAPPATTVQPTATRQQTSFPFRVCELSSHGDLFRFSSD

♠107x178x4♠

IQCPSFGTRENHTEGLLMVFKDNIIPYSF ♠KVRSYTKIVTNILIYNGWYADSVTNRHE♠

EKFSVDSY ETDQMDTIYQ CYNAVKMTKD GLTRVYVDRD GVNITVNLKP TGGLANGVRR

YASQTELYDA PGWLIWTYRT RTTVNCLITD MMAKSNSPFD FFVTTTGQTV EMSPFYDGKN

KETFHERADS FHVRTNYKIV DYDNRGTNPQ GERRAFLDKG TYTLSWKLEN RTAYCPLQHW

QTFDSTIATE TGKSIHFVTD EGTSSFVTNT TVGIELPDAF KCIEEQVNKT HEKYEAVQD

RYTKGQEAIT YFITSGGLLL AWLPLTPRSL ATVKNLTELT TPTSSPPSSP SPPAPSAARG

STPAAVLRRR RRDAGNATTP VPPTAPGKSL GTLNNPATVQ IQFAYDSLRR QINRMLGDLA

RAWCLEQKRQ NMVLRELTKI NPTTVMSSIY GKAVAAKRLG DVISVSQCVP VNQATVTLRK

SMRVPGSETM CYSRPLVSFS FINDTKTYEG QLGTDNEIFL TKKMTEVCQA TSQYYFQSGN

♠107x178x4♠

EIHVYNDYHH FKTIELDGIA TLQTFISLNT ♠SLIENIDFASLELYSRDEQRASNVFD *LE♠

LVS Predicted Coiled Coil TM Potential

GIFREYNFQAQNIAGLRKDLDNAVSN* GRNQ FVDGLGELMDSLGSVG QSITN

♣P12LZIPC♣

TM Potential TM Potential

LVSTVGGLFSSLVSGFISF FK N ♣PFGGMLILVLVAGVVILVISL♣ TRRTRQMS

QQPVQMLYPG IDELAQQHAS GEGPGINPIS KTELQAIMLA LHEQNQEQKR AAQRAAGPSV

ASRALQAARDRFPGLRRRRY HDPETAAALL GEAETEF

FIG. 32

MMDPNSTSED VKFTPDPYQV PFVQAFDQAT RVYQDLGGPS QAPLPCVLWP VLPEPLPQGQ

LTAYHVSTAP TGSWFSAPQP APENAYQAYA APQLFPVSDI TQNQQTNQAG GEAPQPGDNS

TVQTAAAVVF ACPGANQGQQ LADIGVPQPA PVAAPARRTR KPQQPESLEE CDSELEI

@DNA Binding@ ♠107x178x4♠ +Dimerization+
@KRY KNRVASRKCRAK ♠FK@ Q +LLQHYREVAAAKSSENDRLRLLLKQ♠

MCPSLDVD+ SI IPRTPDVLHE DLLNF

FIG. 33

7872-020 (SHEET 41 OF 63)

Fusion Peptide FAG

♥ALLMOTI5♥ *LVS Coiled-Coil*
♥VVLAGAALGVATAAQITAGIALHQSML*NSQAIDNLRASLETTN

QAIEAIRQAGQEMI*LAVQGVQDYINN♥ ELIPSMNQLSCDLIGQKLGLKLLRYYT

♣P23LZIPC♣
♣P6,12LZIPC♣
♠107x178x4♠
♥ALLMOTI5♥
EILSLFGPSLRD ♣PISA ♠♥EISIQALSYALGGDINKV♣ LEKLGYSGGDL♣

♣P1,12LZIPC♣
LGILES♠ RGIKARI♥ THVDTESYFIVLSIAY ♣PTLSEIKGVIVHRLEGV♣ SY

NIGSQEWYTTVPKYVATQGYLISNFDESSCTFMPEGTVCSQNALYPMSPLLQECL

RGSTKSCARTLVSGSFGNRFILSQGNLIANCASILCKCYTTGTIINQDPDKILTYIAA

♣P23LZIPC♣
♣P12LZIPC♣
♥ALLMOTI5♥
LVS Coiled-Coil
DHCPVVEVNGVTIQVGSRRYPDAVYLHRIDLGP ♣P ♥IS*LERLDVGTNLGN

♦Transmembrane Region♦
AIAKLEDAKELL♣ ESSDQI*L♣ RSMK ♦GLSSTSIVYILI♥ AVCLGGLIGIP

ALICCC♦ RGRCNKKGEQVGMSRPGLKPDLTGTSKSYVRSL

FIG. 34

Pre S1 and Pre S2

MGQNLSTSNPLGFFPDHQLDPAFRANTANPDWDFNPNKDTWPDANKVGAGAFG

LGFTPPHGGLLGWSPQAQGILQTLPANPPPASTNRQSGRQPTPLSPPLRNTHPQAM

QWNSTTFHQTLQDPRVRGLYFPAGGSSSGTVNPVLTTASPLSSIFSRIGDPALN

Major Surface Antigen (HBs)

Fusion
Peptide

ǂP12 & 23LZIPCǂ

MENITSG FLG ǂPLL VLQAGFFLLTRILTIǂ PQSLDSWWTSLNFLGGTTVCLG

ǂP12 & 23LZIPCǂ

QNSQSPTSNHSPTSCPPTC ǂPGYRWMCLRRFIIFLFILLLCLIFLLVLLDYQGMLǂ

PVCPLIPGSSTTSTGPCRTCMTTAQGTSMYPSCCCTKPSDGNCTCIPIPSSWAFGKF

♦Transmembrane Region♦

LWEWASARFSWLS ♦LLVPFVQWFVGLSPTVWLSVI♦ WMMWYWGPSL

♦Transmembrane Region♦

♦YSILSPFLPLLPIFFCLWVYI♦

FIG. 35

Fusion ♥ALLMOTI5♥ ♠107x178x4♠
Peptide *LVS Coiled Coil
AIQLIPLFVG LGI ♥TTAVSTGAAGLGVS ♠IT *QYTKLSHQLISDV

QAISSTIQDLQDQVDSLAEVVLQ* NRRGLDLLTAE♠ QGGI♥

CLALQEKCCFYANKSGIVRDKIKNLQDDLERRRRQLIDNPFWTSFHG

FLPYVMPLLGPLLCLLLVLSFGPIIFNKLMTFIKHQIESIQAKPIQVHYH

Transmembrane Region

RLEQEDSGGSYLTLT.....??????????????????????????.....

FIG 36

MKAQKGFTLI ELMIVVAIIG ILAAIAIPQ

♠107x178x4♠
♥ALLMOTI5♥
♠♥YQDYTARTQVTRAVSEVSALKTAAESAILEGKEIVSSA♠ T♥

PK DTQYDIGFT

♠107x178x4♠
♥ALLMOTI5♥
♠♥ESTLLDGSGKSQIQVTDNQDGTVELVATLGKSSGS♠AIKGAVITVSR♥

KNDGV WNCKITKTPT AWKPNYAPAN CPKS

FIG. 37

MNTLQKGFTL IELMIVIAIV GILAAVALPA YQDYTARAQV

SEAILLAEGQ KSAVTEYYLN HGIWP

♠107x178x4♠
♥ALLMOTI5♥
♠♥KDNTSAGVASSSSIKGKYVKEVKVENGVVTAT♠

MNSSNVNKEIQGKKLSLWAKRQDGSVKW♥

FCGQP VTRNAKDDTV TADATGNDGK IDTKHLPSTC RDNFDAS

FIG. 38

MKKTLLGSLI LLAFAGNVQA DINTETSGKV TFFGKVVENT

CKVKTEHKNL SVVLNDVGKN SLSTKVNTAM PTPFTITLQN

CDPTTANGTA NKANKVGLYF Y

♠107x178x4♠
♥ALLMOTI5♥
♠♥SWKNVDKENNFTLKNEQTTADYATNVNI♠

QLMESNGTKAISVVGKETE♥

DF MHTNNNGVAL NQTHPNNAHI SGSTQLTTGT NELPLHFIAQ

YYATNKATAG KVQSSVDFQI AYE

FIG. 39

MNKKLLMNFF IVSPLLLATT ATDFTPVP

♠107x178x4♠
♥ALLMOTI5♥
♠♥LSSNQIIKTAKASTNDNIKDLLDWYSSGSDTFTNS♠♥

EVLDNSL GSMRIKNTDG SISLIIFPSP YYSPAFTKGE KV

♠107x178x4♠
♠DLNTKRTKKSQHTSEGTYIHFQISGVT♠

N TEKLPTPIEL PLKVKVHGKD SPLKYG

♣P12LZIPC♣
♣PKFDKKQLAISTLDFEIRHQLTQI♣

HGLYRSSDKT GGYWKITMND GSTYQSDLSK KFEYNTEKPP

INIDEIKTIE AEIN

FIG. 40

♥ALLMOTI5♥
MKKTAFILLL FIALTLTTSP L ♥VNG

♠107x178x4♠
LVS Predicted Coiled-Coil
S ♠EKSEEINEKDLRKKSELQRNALSNLRQIY YYNEKAITENKESDD♠

QFLENTLL♥ FKG FFTGHPW

♠107x178x4♠
♠YNDLLVDLGSKDATNKYKGKKVDLYGAY♠

YGYQCAGGTPNKTACMYGGVTLHDN NRLTEEKKVP INLWIDGKQTTV

♣P12LZIPC♣
♣PIDKVKTSKKEVTVQELDL♣ QARHYLHGK FGLYNSDSFGGKVQ

♣P12LZIPC♣
RGLIVF HSSEGSTVSY DLFDAQGQY ♣P DTLLRIYRDN KTINSENLHI♣

DLYLYTT

FIG. 41

♥ALLMOTI5♥
MKKTAFTLLL FIALTLTTSP L ♥VNGS

♠107x178x4♠
♠EKSEEINEKDLRKKSELQGTALGNLKQIYYYNEKAKTENKESHD♠ Q♥

FLQHTILFKG FFTDHSWYND LLVDFDSKDI VDKYKGKKVDLYGAYY

GYQC AGGTPNKTAC MYGGVTLHDN NRLTEEKKVPINLWLDGKQNTV

♠107x178x4♠
♥ALLMOTI5♥
♣P12LZIPC♣
♣P ♥L ♠ETVKTNKKNVTVQELDLQARRYL♣ QEKYNLYN♠

SDVFDGKVQR♥ GLIVF HTSTE

♣P23LZIPC♣
♣PSVNYDLFGAQGQYSNTLLRIYRDNKTINSENMHI♣ DIYLYTS

FIG. 42

MKNITFIFFILLASPLYANGDRLYRADSRPPDEIKRFRSLMPRGNEYFDRGT

♥ALLMOTI5♥
♥QMNINLYDHARGTQTGFVRYDDGYV

♠107x178x4♠
♠STSLSLRSAHLAGQYILSGYSLTIYIVI♠ ANMFNVNDVISVY♥

SP HPYEQEVSAL GGIPYSQIYG WYRVNFGVID ERLHRNREYR

DRYYRNLNIA PAEDGYRLAG FPPDHQAWRE EPWIHHAPQG

CGDSSRTITG DTCNE

♥ALLMOTI5♥
♥ETQNLSTIYLREYQSKVKRQIFSDYQSEVDIYNRIRDEL♥

FIG. 43

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MMFSGFNADY EASSSRCSSA SPAGDSLSYY HSPADSFSSM

GSPVNAQDFC TDLAVSSANF IPTVTAISTS PDLQWLVQPA

LVSSVAPSQT RAPHPFGVPA PSAGAYSRAG VVKTMTGGRA

LVS Predicted Coiled-Coil

QSIGRRGKVE QLSPEEEEKR RIRRE *RNKMA AAK

♠107x178x4♠

♥ALLMOTI5♥

♥CRNRRREL ♠TDTLQAETDQLEDEKSALQTEIANLLKEKEKL♥

EFILAAH R* PACKIPDDL GFPEEMSVAS LDLTGGLPEV

ATPESEEAFT LPLLNDPEPK PSVEPVKSIS SMELKTEPFD

DFLFPASSRP SGSETARSVP DMDLSGSFYA LPLLNDPEPK

PSVEPVKSIS SMELKTEPFD DFLFPASSRP SGSETARSVP

DMDLSGSFYA GSSSNEPSSD SLSSPTLLAL

FIG. 44

SGWESYYKTEGDEEAEEEQEENLEASGDYKYSGRDSLIFLVDASKA

MFESQSEDELTPFDMSIQCIQSVYISKIISSDRDLLAVVFYGTEKDKNS

VNFKNIYVLQELDNPGAKRILELDQFKGQQGQKRFQDMMGHGSDY

SLSEVLWVCANLFSDVQFKMSHKRIMLFTNEDNPHGNDSAKASRAR

TKAGDLRDTGIFLDLMHLKKPGGFDISLFYRDIISIAEDED

♠107x178x4♠

♥ALLMOTI5♥

LVS Predicted Coiled-Coil

♥LRVH *FEE ♠SSKLEDLLRKVRAKETRKRALSRLKLKLNKDIV* ISV

GIYNLVQKAL♥ KPPPIKLYRETN♠ EPVKTKTRTFNTSTGGLLLPSDTKR

SQIYGSRQIILEKEETEELKRFDDPGLMLMGFKPLVLLKKHHLRPSLFVYPE

ESLVIGSSTLFSALLIKCLEKEVAALCRYTPRRNIPPYFVALVPQEEELDDQK

IQVTPPGFQLVFLPFADDKRKMPFTEKIMATPEQVGKMKAIVEKLRFTYRS

DSFENPVLQQHFRNLEALALDLME

♣P12LZIPC♣

♣PEQAVDLTLPKVEAMNKRL♣ GSLVDEFKELVYPPDYNPEGKVTKR

KHDNEGSGSKRPKVEYSEEELKTHISKGTLGKFTVPMLKEACRAYGLKSG

LKKQELLEALTKHFQD

FIG. 45

GGGALSPQHSAVTQGSIIKNKEGMDAKS

♠107x178x4♠
♥ALLMOTI5♥
♥♠LTAWSRTLVTFKDVFVDFTREEWKLLDT♠ AQQIVYRNV
MLENYKNLVSLGYQLT♥ KPDVILRLEKGEEPWLVEREIHQETHPD
SETAFEIKSSVSSRSIFKDKQSCDIKMEGMARNDLWYLSLEEVWKCR
DQLDKYQENPERHLRHQLIHTGEKPYECKECGKSFSRSSHLIGHQKT
HTGEEPYECKECGKSFSWFSHLVTHQRTHTGDKLYTCNQCGKSFVH
SSRLIRHQRTHTGHKPYECPECGKSFRQSTHLILHQRTHVRVRPYECN
ECGKSYSQRSHLVVHHRIHTGLKPFECKDCGKCFSRSSHLYSHQRTH
TGEKPYECHDCGKSFSQSSALIVHQRIHTGEKPYECCQCGKAFIRKN
DLIKHQRIHVGAETYKCNQCGIIFSQNS

♣P23LZIPC♣
♣PFIVHQIAHTGEQFLTCNQCGTALVNTSNLIGYQTNHI♣ RENAY

FIG. 46

7872-020 (SHEET 54 OF 63)

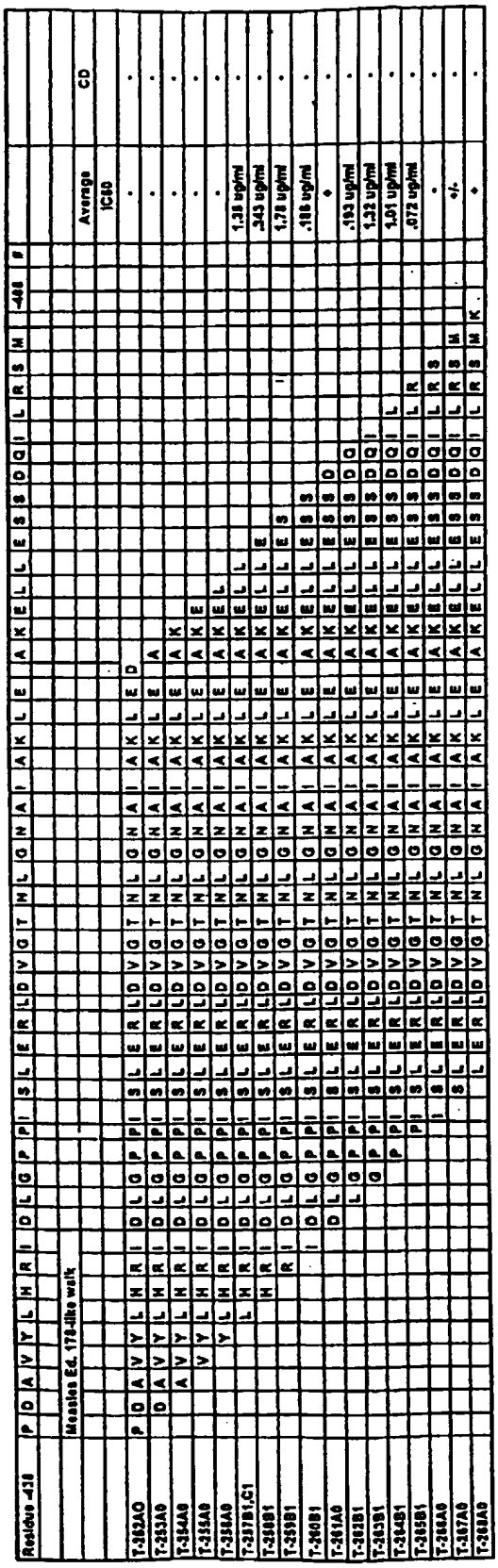


FIG. 47

7872-020 (SHEET 55 OF 63)

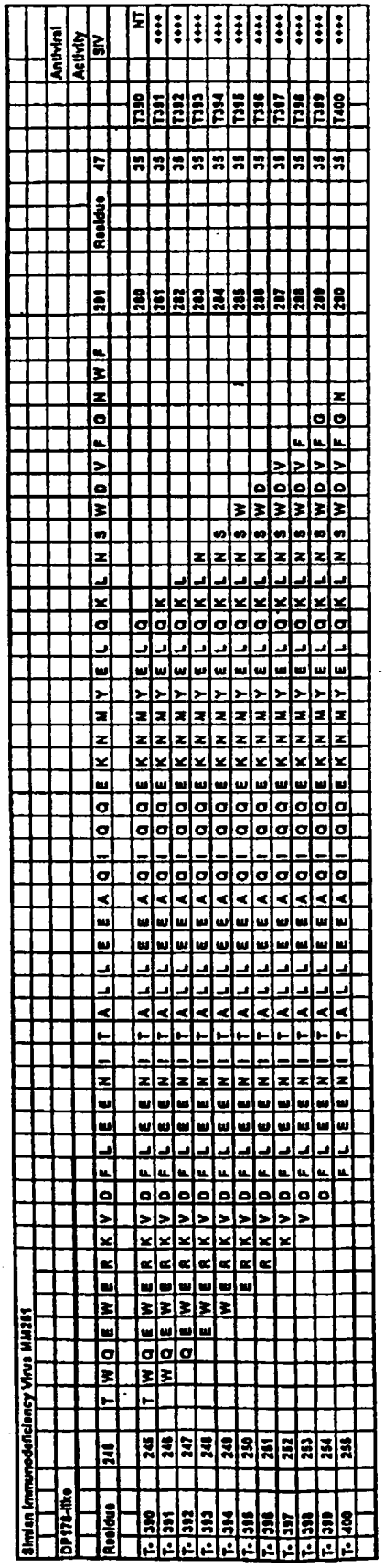


FIG. 48

7872-020 (SHEET 56 OF 63)

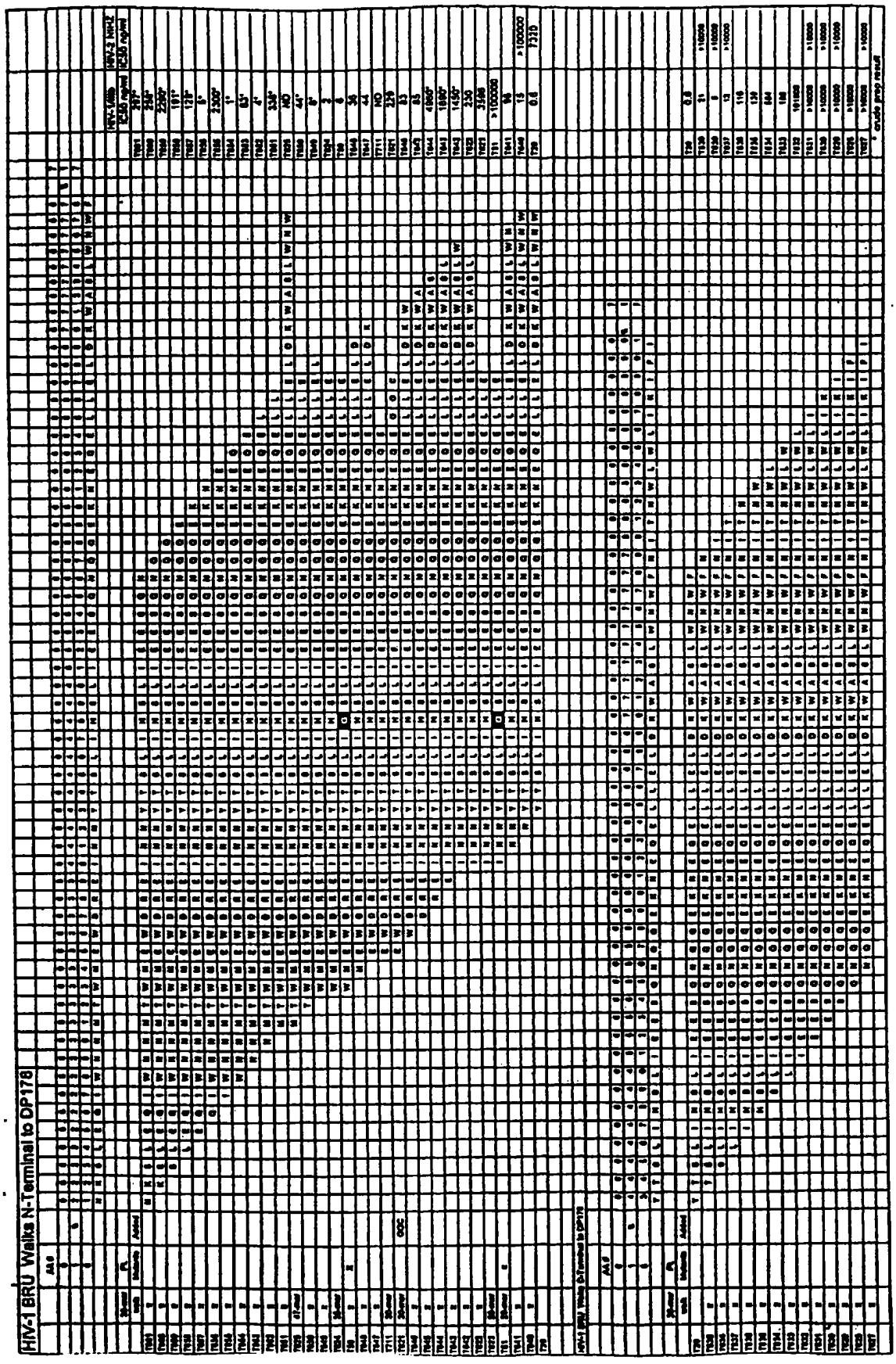


FIG. 49A

7872-020 (SHEET 57 OF 63)

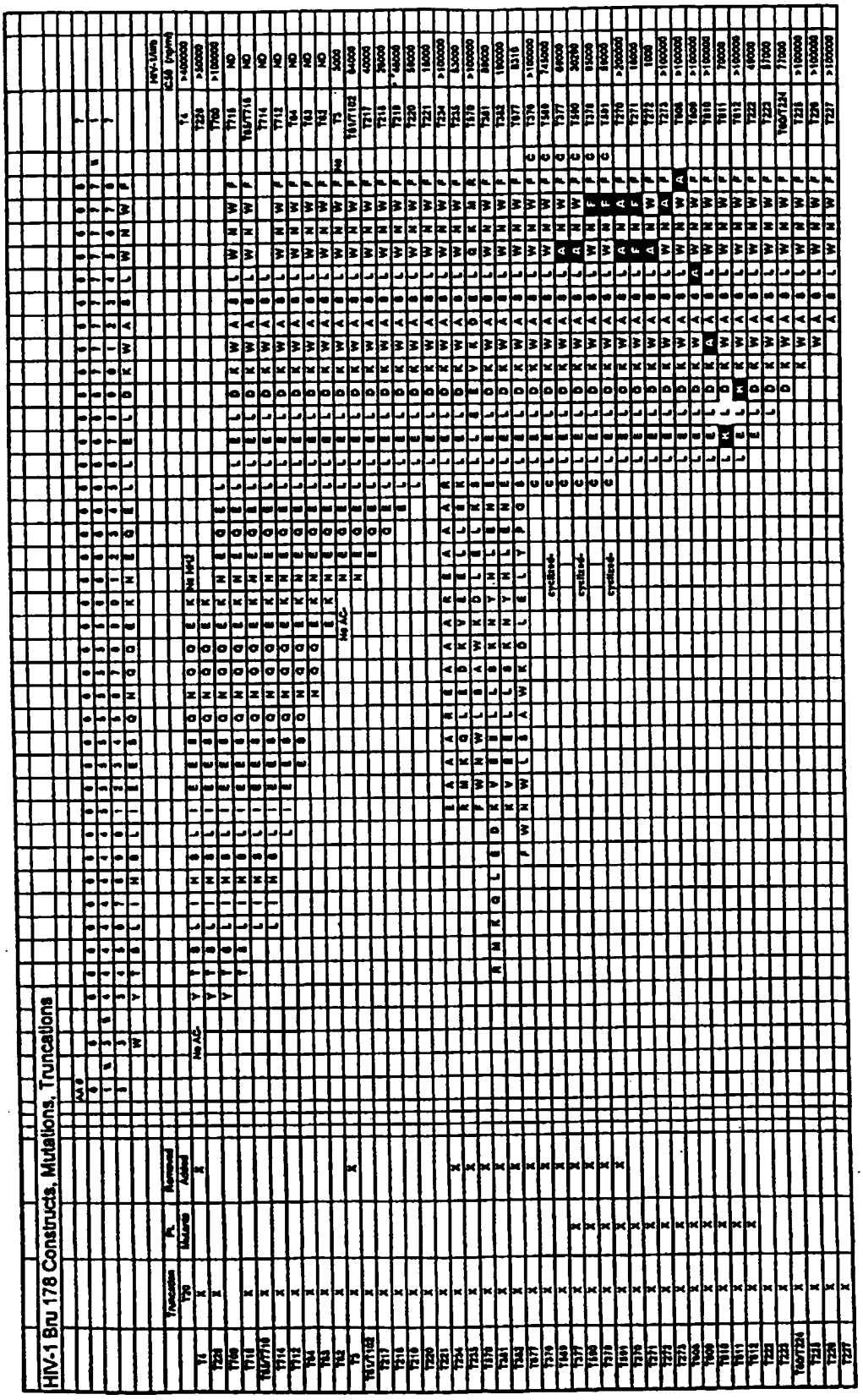


FIG. 49B

7872-020 (SHEET 58 OF 63)

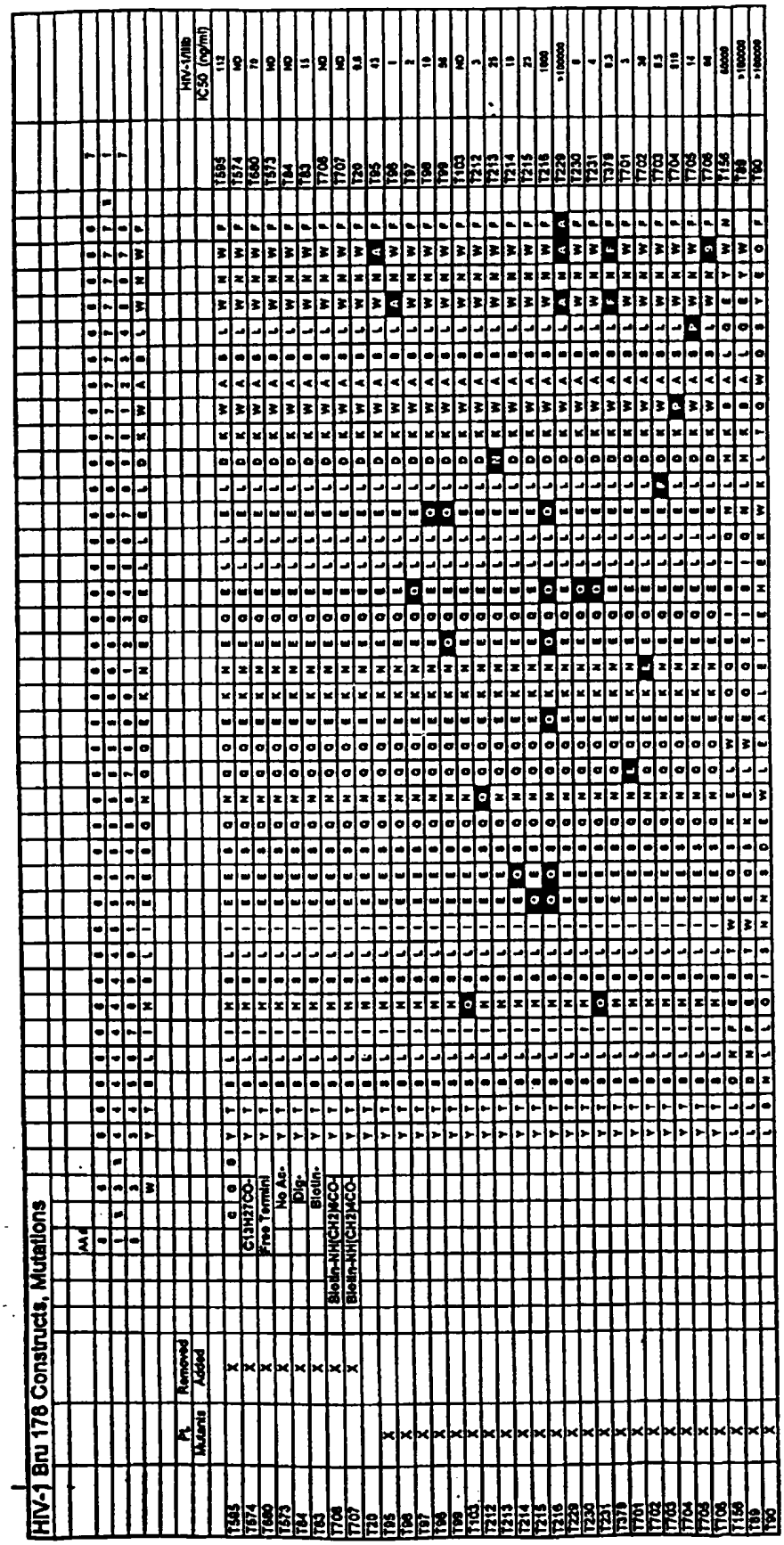


FIG. 49C

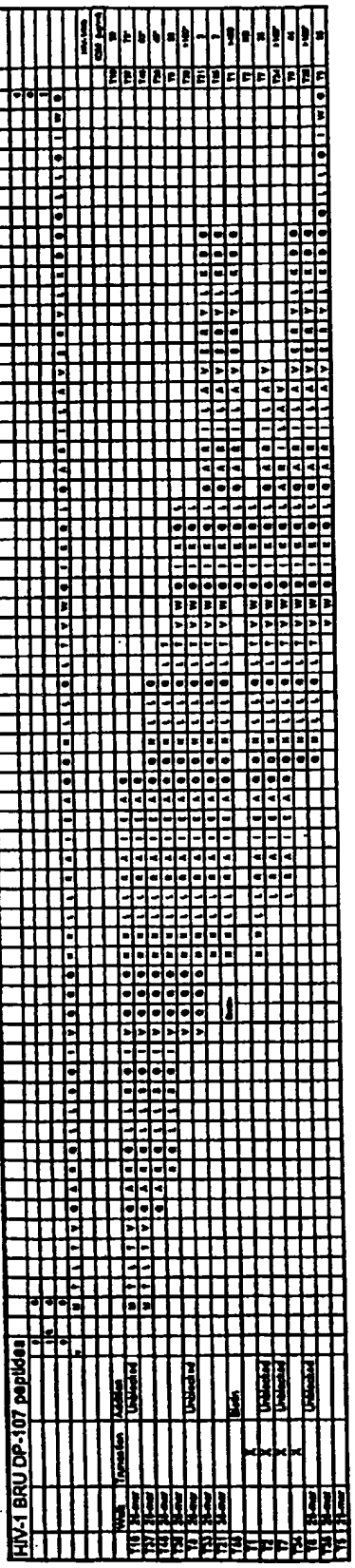


FIG. 50

7872-020 (SHEET 60 OF 63)

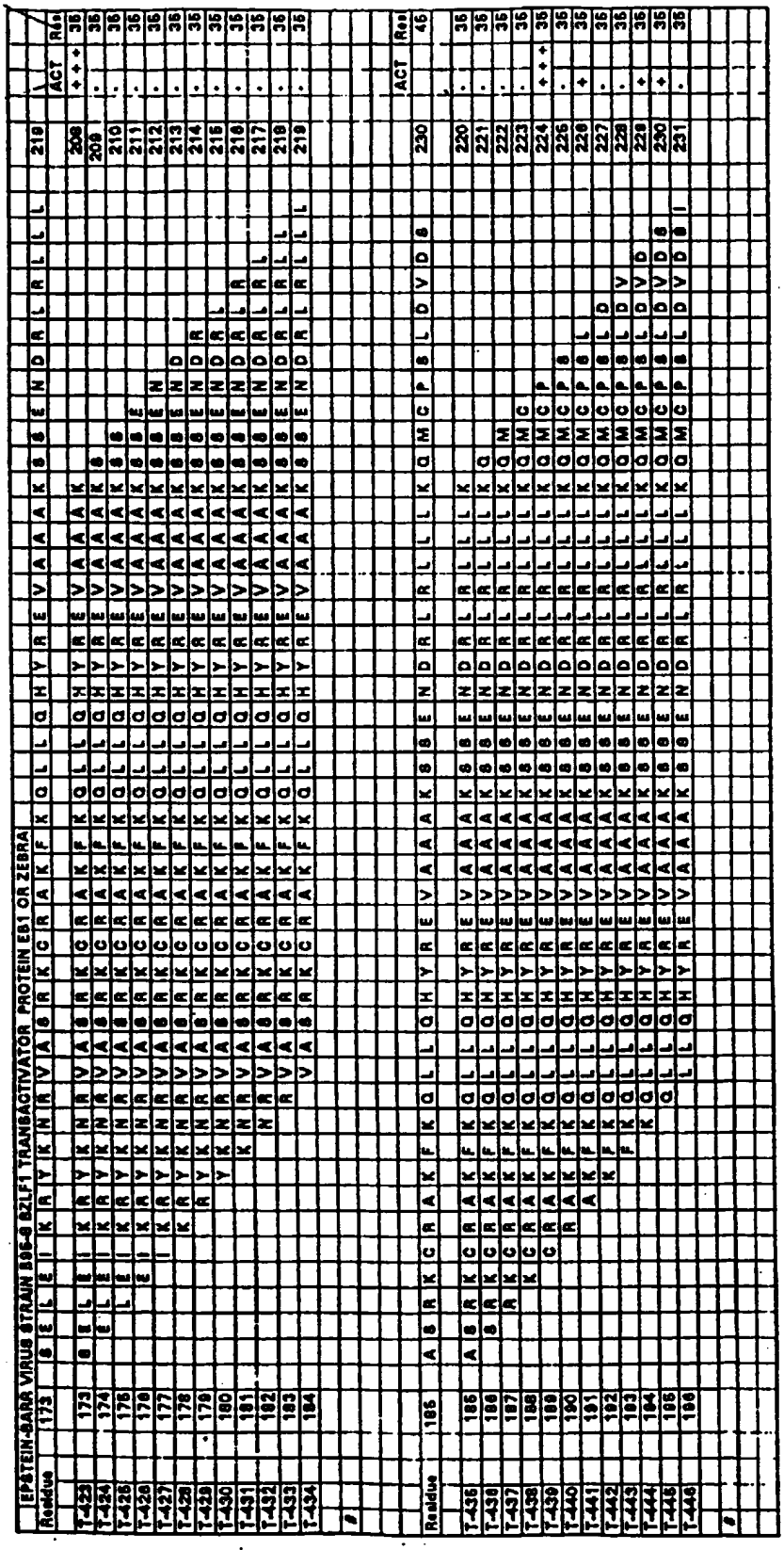


FIG. 51A

7872-020 (SHEET 61 OF 63)

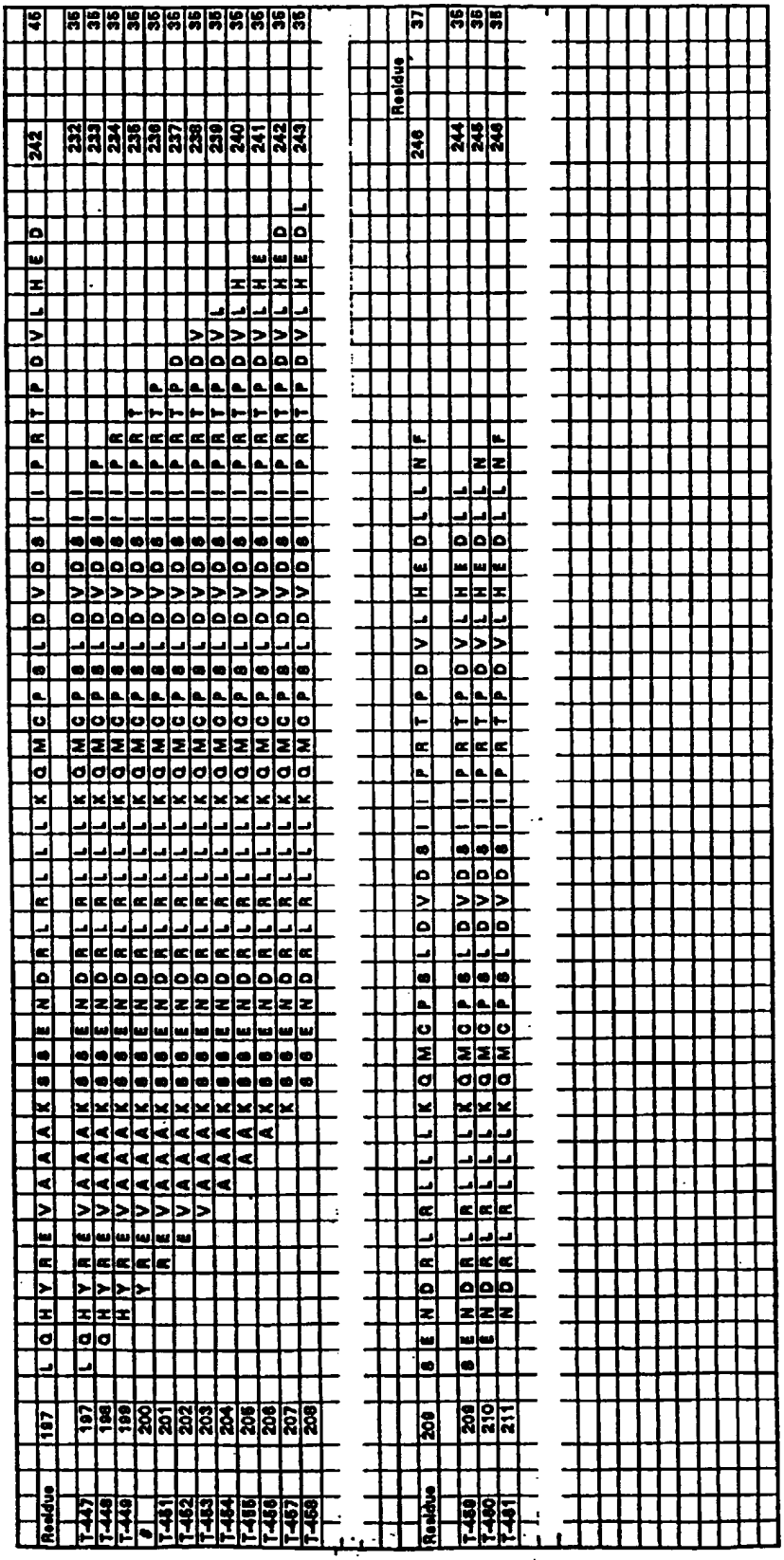


FIG. 51B

7872-020 (SHEET 62 OF 63)

Domain I:

174P-L-L-V-L-Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-G-T-T-V-C-L-G-Q-N-S-Q-S-P220

P-L-L-V-L-Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T
L-L-V-L-Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T
L-V-L-Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V
V-L-Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C
L-Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L
Q-A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G
A-G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G-Q
G-F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G-Q-N
F-F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G-Q-N-S
F-L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G-Q-N-S-Q
L-L-T-R-I-L-T-I-P-Q-S-L-D-S-W-W-T-S-L-N-F-L-G-G-T-T-V-C-L-G-Q-N-S-Q-S

FIG. 52A

Domain II:

223P-G-Y-R-W-M-C-L-R-R-F-I-I-F-L-FI-L-L-L-C-L-I-F-L-L-V-L-L-D-Y-Q-G-M-L-P-V-C-P-L-I-P-G-S-S-T-S-T-G-P-C-R-T-C-M-T-T291

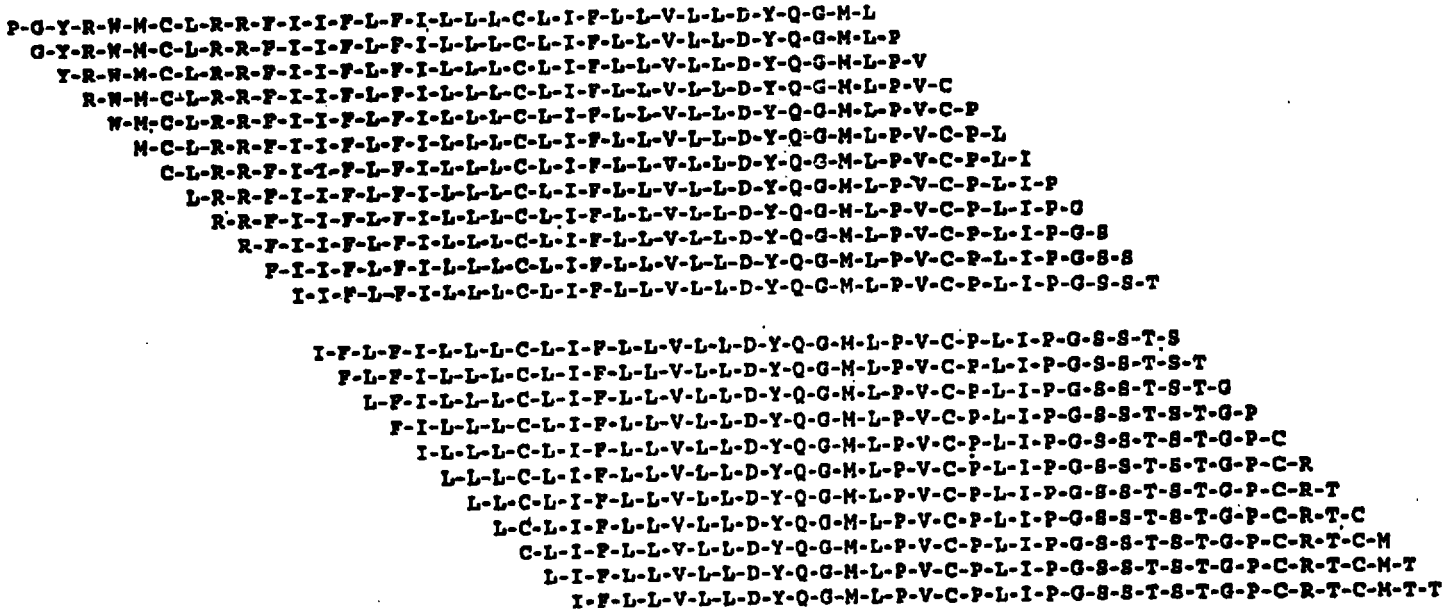


FIG. 52B

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US95/16733

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :C07K 7/04,14/025, 14/16; C12N 9/94, 9/96, 9/98, 9/99
US CL :530/324; 424/184.1
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 530/324, 325, 326, 327, 328, 329; 424/184.1, 185.1, 186.1, 187.1, 188.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

MEDLINE, AIDSLINE, APS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X ----- Y	PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, Volume 89, Number 21, issued November 1992, Wild et al, "A Synthetic Peptide Inhibitor of Human Immunodeficiency Virus Replication: Correlation Between Solution Structure and Viral Inhibition", pages 10537-41, see entire document.	1-3, 9, and 10 ---------- 4-8 and 11-15

[X] Further documents are listed in the continuation of Box C. [ ] See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
28 MARCH 1996	09 APR 1996
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer JEFFREY STUCKER Telephone No. (703) 308-0196

Form PCT/ISA/210 (second sheet)(July 1992)*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US95/16733

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X ----- Y	PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, Volume 91, Number 26, issued December 1994, Wild et al, "Propensity for a Leucine Zipper-Like Domain of Human Immunodeficiency Virus Type 1 gp41 to Form Oligomers Correlates With a Role in Virus-Induced Fusion Rather Than Assembly of the Glycoprotein Complex", pages 12676-80, see entire document.	1-3, 9 and 10 ---------- 4-8 and 11-15
X --------- Y	PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, Volume 81, Number 24, issued December 1984, Collins et al, "Nucleotide Sequence of the Gene Encoding the Fusion (F) Glycoprotein of Human Respiratory Syncytial Virus", pages 7683-87, see pages 7683 and 7685.	1 and 4 ---------- 9 and 11
X ----- Y	VIROLOGY, Volume 204, Number 2, issued 01 November 1994, Bousse et al, "Regions on the Hemagglutinin-Neuraminidase Proteins of Human Parainfluenza Virus Type-1 and Sendai Virus Important for Membrane Fusion", pages 506-514, see pages 506 and 510-513.	1 and 5 ---------- 9 and 12
X ----- Y	JOURNAL OF VIROLOGY, Volume 67, Number 9, issued September 1993, Wang et al, "Ion Channel Activity of Influenza A Virus M2 Protein: Characterization of the Amantidine Block", pages 5585-94, see pages 5585-86.	1 and 6 ---------- 9 and 13
X ----- Y	JOURNAL OF VIROLOGY, Volume 67, Number 5, issued May 1993, Lazinski et al, "Relating Structure to Function in the Hepatitis Delta Virus Antigen", pages 2672-80, see pages 2672-73 and 2678.	1 and 7 ---------- 9 and 14
P, Y	JOURNAL OF EXPERIMENTAL MEDICINE, Volume 182, Number 2, issued August 1995, Suzuki et al, "Viral Interleukin 10 (IL-10), the Human Herpes Virus 4 Cellular IL-10 Homologue, Induces Local Anergy to Allogenic and Syngeneic Tumors", pages 477-486, see entire document.	1, 8, 9, and 15